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BSNews

MECHANICAL & ELECTRICAL BUILDING SERVICES

Refrigeration - 20-page special



***The Race is on for Market
Dominance***

ALSO

CIBSE Millennium Appeal

BTU Golf Results

From Bolton Street to Managing Global Customers

Commercial & Industrial Boilers

Veha Merchants have a Ball!

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BSNews*

MECHANICAL & ELECTRICAL
BUILDING SERVICES

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Irish Building Services News (formerly Irish H&V News) is Ireland's only Building Services magazine providing coverage of heating, ventilating, air conditioning, refrigeration, sanitaryware, plumbing, maintenance and environmental industries. It is the only publication catering exclusively for these industries and its circulation includes members of the following:- Chartered Institution of Building Services Engineers (CIBSE);

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The Association of Consulting Engineers of Ireland (ACEI); The Mechanical Engineering Contractors' Association; The Institute of Domestic Heating Engineers (IDHE);

The Registered Heating Contractors Association; The Maintenance, Energy & Environmental Technology Association (MEETA) which incorporates energy managers and maintenance managers;

The Energy Conservation & District Heating Association; The Institute of Plumbing; The Irish Home Builders Association (IHBA); Builders Merchants/Trade Supply Outlets; Irish Property & Facilities Managers Association.

In addition, Irish Building Services News circulates to independent building services contractors and key executives in industry. Government, Semi-State and local authority bodies. Essentially, our circulation is virtually saturation coverage of all those with an interest and/or involvement in the industry.

Skills Shortage ... You Ain't Seen Nothin' Yet!

According to some industry commentators, the construction sector — and especially the building services sector — is only as yet experiencing the tip of the iceberg in respect of skills shortages. To date the problem has manifest itself in ever-increasing hourly rates of pay and a great difficulty in attracting and retaining skilled operatives.

However, we are now close to a situation where there are simply not enough operatives— skilled, semi-skilled or otherwise — to go 'round. The increased workload of recent years has seen far too many apprentices enter full-time employment without completing their studies/training. Even employers who traditionally supported these initiatives are now faced with the dilemma of balancing skills training for the future with that of today's urgent needs. Compromises are being made which don't augur well for the skill base of future generations.

And the problem looks set to get worse. According to a recent report, something like 24 million sq ft of office space is currently in the supply pipeline. This is made up of:—

- 3.9 million sq ft which is complete/under construction for 1999;
- 6 million sq ft which has full or outline planning permission;
- 4.1 million sq ft which is in the planning process;
- 10 million sq ft which is at pre-planning stage.

There was a time when work at drawing board or even planning permission stage might never materialise but, with employment in the financial services sector alone set to grow by 10,000 in the next 12 months, there is no doubt but that the demand for office space will continue. When you include the increased demand right across all other industry sectors — and then add in housing — the magnitude of the problem becomes clear.

If we think we have a skills shortage today, just what will the scenario be in 12 and 18 months time?

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C I B S E N E W S

CIBSE Annual Golf Outing

The CIBSE Annual Golf outing took place in Clontarf Golf Club this year, a total of 132 teeing off in the 3-man scramble event with 140 attending for the dinner and presentation of prizes. As usual, the day proved one of the highlights of the CIBSE social calendar, the near-perfect playing conditions making for some excellent scoring. Winners on the day were the C&F Quadrant team. Our photographer was also present and he captured some of the recipients as they were presented with their prizes.



Michael Murphy with Paddy Horgan, Sean Ascough and Larry McGettrick.



Michael O'Doherty with Sean Ascough.



Des Kelly with Sean Ascough.



Jim Smith with Sean Ascough.



Michael McDonald with Sean Ascough.



Bob Daly with Dave Egan, Paddy Clonan, Peter O'Dowd and Sean Ascough.



Noel Memory with Sean Ascough.



Tony Donohue.

Christmas 1999

Building Industry Millennium Jubilee Appeal

Given the human significance of this point in time, the Republic of Ireland Branch of CIBSE, in conjunction with *BSNews*, has decided to conclude the old Millennium by organising a once-off charity appeal in aid of the third World. Your fullest support is requested for this appeal which will place in the run up to this Christmas.

We are all aware of the many parties, celebrations and other extraordinary festivities that are scheduled for the year 2000. The historic significance from the viewpoint of our Judeo/Christian heritage is that the year 2000 is a Jubilee Year which happens every 50 years and during which a special type of what you might call "Christmas spirit" traditionally prevails. This dates back to the time of Moses when it was

customary to forgive debts and return land to their original owners on the year after "seven sevens", seven being a number of "completeness". The timing of this appeal is intended to help us and our friends in the industry to reflect on our relatively good fortunes before we get immersed in the enjoyment of this special year. And what better way to finish an old millennium and begin a new one that to cheerfully give!

Ideas for Giving

☐ *Corporate Donations* (normally qualify for corporation tax relief). These could be funded by complete or partial substitution of corporate Christmas gifts and/or a special extra provision. It would be usual to inform clients of this choice via Christmas cards.



- ☐ *Personal Donations* (for donations of £200 to £750 the charities can normally recoup a further 24% on personal income tax); possibly donate last day's, week's or month's earnings of the old Millennium
- ☐ *Office/site/factory whip-arounds* – it just needs one person to take the initiative for this!
- ☐ *Cashing in of "corporate bottle gifts"* – at large supermarkets and donating the proceeds personally
- ☐ *Any other* appropriate fund-raising idea you can think of.

How to Donate

Please fill in this form and forward it, along with your donation, directly to the charity of your choice (see overleaf). All cheque/Giro payments should mention "(Building Industry Fund)" after the Charities name.

Name:

Address:

Tel:

Contact Name (if Corporate donation):

I/We enclose a cheque/Giro in the sum of £.....

My/our area of activity is:

Building Services Industry ☐

General Building Industry ☐



Concern, Camden Street,
Dublin 2.
Tel: 01 - 475 4362.
Contact: Maureen
Browne. Website:
www.concern.ie

Bank Details: A/C No: 16322733

Bank: Bank of Ireland, College Green, Dublin 2

"Concern is involved in development work, with the emphasis on building the ability of people in developing countries to take control of their own development. This means that, as well as providing tangible resources such as money, materials and manpower, we also seek to work in partnership with those whom we are trying to help.

"Monies raised as a result of this appeal will go towards our Community Development Programme in Rwanda. Following the genocide and war there hundreds and thousands were left suffering from injuries, children were orphaned and many were left homeless and landless. The Community Development Programme enables vulnerable groups in the community to help themselves. As a result of this programme the community will become more self reliant, with improved access to food and a greater ability to earn money for themselves".



Goal PO Box 19, Dunlaoghaire,
Co Dublin. Tel: 01 - 280 9779.
Website: www.goal.ie
Contact: Enda Whelan

Bank Details: A/C No: 85758012
Bank: AIB, Greystones, Co
Wicklow. Sort Code: 90-11-16

"We believe that every human being has the right to the fundamentals of life: food, water, shelter, healthcare and literacy. We aim to respond quickly, efficiently and with the utmost dedication to emergencies wherever they may arise. We keep administration costs to a minimum, thus ensuring that the bulk of funds are spent directly on those people most in need. We believe that it is essential to train local people so that they can continue to provide healthcare and other services long after Goal have left.

"Monies raised as a result of this appeal will be provided for the rebuilding of family houses in Honduras, destroyed by Hurricane Mitch. Each family house costs £300 and we have a target of rebuilding 3,000 of them".



SELF HELP
DEVELOPMENT
INTERNATIONAL

Self Help, Hacketstown, Co
Carlow. Tel: 0508 - 71175.
Contact: Ann Murphy
Website: shdi@indigo.ie

Bank Details: A/C No: 71012834
Bank: Bank of Ireland, Tinahely,
Co Wicklow. Sort Code: 90-66-70

"Self Help Development International is an Irish Third World development agency. It was founded in 1984 in response to the Ethiopian famine. Its founders, all development and agricultural experts, believe that famine is an unnatural disaster. Self Help believes that countries like Ethiopia can become not only self sufficient in food, but strong agricultural exporters. Self-Help works by helping people to help themselves.

Monies raised as a result of this appeal will be given towards the provision of rain harvesting facilities for an integrated development programme in Dodota, Ethiopia".



Trocaire, 169 Booterstown
Avenue, Blackrock,

Co Dublin. Tel: 01 - 288 5385.

Contact: Geraldine Mills Website: www.Trocaire.org

Bank Details: A/C No: 98861546 Bank: AIB, 7-12
Dame Street, Dublin 12. Sort Code: 93-20-86

"Since 1973 Trocaire has been working among the world's poorest people and supporting their efforts to build a better life for themselves and future generations. Our aim is to bring about real and sustainable change in their lives. Today Trocaire supports more than 500 programmes worldwide ranging from training Trauma Counsellors in Rwanda, helping Filipino farmers to claim their land rights, building houses for homeless families in Honduras and repairing homes and schools in Kosovo.

"Monies raised as a result of this appeal will be used to support community development programmes. A small sum of money goes a long way. All it costs is £70 to build a well for a community in Cambodia and ensure a supply of clean water. A donation of £100 will help immunise 20 children in Africa against the six major killer diseases. With £500, Trocaire can set up a credit fund that will enable 400 farmers in Peru to purchase sheep".

All information here is offered in good faith. The promoters take no responsibility for this information or acts or omissions of the charitable organisations named. If you require any further information before you make a donation, we recommend that you satisfy yourself directly by contacting the addresses given or another charity of your preference.

From Bolton Street to Managing Global Customers

If anyone doubted the value of a Bolton Street qualification in building services they need look no further than Pat Byrne. As European Multinational Accounts Manager with responsibility for managing the air conditioning and refrigeration giant's global customers — while retaining his role as General Manager York ACR in Ireland — Pat is your archtypal success story.

Ireland has been very good for York in recent years, the team of 30 employed at its purpose-designed Citywest premises just off the Naas Road in Dublin firmly establishing Ireland as the hub of York International's European activity.

Turnover has multiplied year on year, from £300,000 in 1992 to a figure approaching £6 million for the current year.

York International's management policy has always been to promote from within. It invests vast sums in training and development to encourage that process while, at the

same time, creating a wealth of knowledge and expertise which enhances customer services and its ability to devise and implement cost-effective, problem-solving solutions.

Pat Byrne is an excellent example of that process, as indeed is his assistant, Cathy Ryan, who has just recently been appointed Corporate Accounts Administrator. Their role

and responsibility is truly of global proportions, reflecting the global nature — and requirements — of some of the world's largest trading corporations.

More and more companies such as IBM, Proctor & Gamble, Johnson & Johnson, etc operate on a genuine global scale, making central purchasing decisions which are implemented right throughout the world. As market-leading giants in their respective fields, they too demand reciprocal global service from their suppliers, negotiating "favoured supplier" status contracts which very often override national or local arrangements. Pat Byrne's role is to service York International's existing multinational accounts and to develop new agreements with other global customers.

"As more and more global companies demand global account management from its suppliers" says Pat Byrne, "we at York take the view that it is no longer acceptable merely to respond to this development but to be proactive in pursuing the opportunities it represents. In fact, we now apply the same criteria to our own suppliers and are entering into global purchasing agreements for our needs."

Since taking on his new role Pat spends much of his time travelling throughout the world, meeting and establishing face-to-face relationships with his global customer counterparts. Once a formula has been put in place, a growing percentage of the day-to-day business is conducted electronically, email and E-commerce communications facilitating day-to-day contact, irrespective of country of origin while at the same time retaining the personal customer approach

Not bad for a guy from Bolton Street!

"The world has been made smaller by the emergence of large global multinational corporations who manufacture, service and sell their products to the world."

"As their needs are global, their suppliers must also be able to satisfy their requirements, wherever that multinational corporation establishes itself."

"York International is such a global supplier and through its worldwide network of sales and service offices, it is able to provide its global customers with the premium attention that they deserve."

"In order to ensure that the global network of York branches is aware of our multi-national customers and understands the importance and, in some cases contractual, relationships that we have with them, York International has recently established a multi-national sales and service group, whose responsibility it is to understand the needs of the corporate customer and make sure these are satisfied through our global branches in whatever corner of the world."

"Pat Byrne is the European Multi-National Manager and spends his day communicating with his counterparts about York's global customers and their projects in Europe, likewise communicating to them European-based headquarters needs when they are dealing with projects outside of Europe."

"Pat, in his daily schedule, works with diverse multi-national's such as McDonalds, Pfizer, IBM, Bechtel, Nestle, Unilever, Hilton and Citibank among the hundreds of companies York considers to be their global partners."

"The bottom line is the international customer comes first at York International and this new group is charged with the all-encompassing responsibility to serve that customer".

Jack Scott, Vice-President, European Operations, York International



Pat Byrne, York International European Multinational Accounts Manager and General Manager of York ACR in Ireland.

Veha Merchants Have A Ball!

The Annual Veha Gala Merchants' Weekend took place in Kilkenny's Newpark Hotel recently. As always the emphasis was on entertainment and fun, the programme proving exceptional this year in that the alternatives for non-golfers was perhaps the best yet.

As usual the same rogues gallery stayed up well into the early hours of Saturday morning, such was the craic at the informal Friday evening get-together. To give them their credit, they appeared to a man and woman (well, nearly) on the tee box the next day. Needless to say, the scoring for some was not to their usual high standard!

Most of the non-golfers went on the historical tour. Included in the itinerary was a visit to Mosses Pottery, Bennettsbridge; Thomastown, Inistioge; The Waterside restaurant in Graiguenamanagh; Duiske Abbey, Duiske Glass and Cushendale Woollen Mills; Lunch at Langtons pub; and a tour of Kilkenny Castle.

That evening everyone turned out in their finery to enjoy the Gala Dinner, the presentation of the golf prizes, and to "trip the light fantastic" well into the early hours of Sunday morning.

The roving magician at the pre-dinner reception proved extremely popular. Everyone knew it was slight of hand and many sought to move around him and view the tricks from different vantage points to see how it was done ... but to no avail.

By the time everyone rose the next day, had breakfast and said their good-byes, they were in some respects glad to be returning to home!

As always, Veha personnel hosted the occasion in superb fashion and everyone on the weekend has already made arrangements to meet up again



Our photographer was also present over the weekend and he captured all and sundry as they enjoyed themselves. The brief selection reproduced here was chosen at random and is intended merely to convey the sense of fun that permeated the entire occasion.

LEFT: Francis O'Dwyer with Rory Healy, Bernadette Thornton, Eileen Healy and Linda O'Dwyer

RIGHT: PJ Nolan with Henry Morris and Seamus Scally



LEFT: Tony Barrett with Anne Malone, Tommy Hurst and Ger Malone

RIGHT: Renee and Paddy Power



LEFT: Eugene O'Neill with Kenneth Johnson



LEFT: Henry Morris presenting overall winner Ciaran O'Connor with the Jim O'Reilly perpetual trophy



RIGHT: Basil Farnan, Best Back Nine, with Henry Morris

BELOW: Tony Hurst, who received fourth prize, with Henry Morris



BELOW: Winner of the ladies competition Anne Malone, receiving her prize from Henry Morris



ABOVE: Runner-up Pat Walsh receiving his prize from Henry Morris



RIGHT: Ladies competition runner-up Roseleen Farnan. She is pictured with Henry Morris

BELOW: Henry Morris presenting 3rd-placed Josephine Kavanagh with her prize



ABOVE: Leo Kelly receiving his "best score by a Veba participant" from Henry Morris



LEFT: Ger Malone, who came third in the golf, receiving his prize from Henry Morris



BTU GOLF NEWS

Captain's Day

Sponsored by ABB

A most enjoyable and successful Captain's Day (Frank Somers) of the BTU Golf Society took place on Friday, 20 August at The Island Golf Club. Special thanks to Frank on his magnificent prizes and indeed for his efforts throughout the year in ensuring that the Society continues to run effectively for the enjoyment of all its members. Also, a very special thank you to ABB for its generous sponsorship and splendid array of prizes on the day.

In fine but breezy conditions, scoring was of a high standard on this very trying golf course, as can be seen by the following results:

Captain's Prize: Brendan Keaveny (6) – 30pts

Class 1 – 1st: Michael Mathews (8) – 34pts

2nd: John Lawlor (11) – 33pts

3rd: Tony Gillen (12) – 32pts

Class 2 – 1st: Sean Farrell (13) – 34pts

2nd: John Littlefield (16) – 31pts

3rd: Frank Lynch (14) – 30pts, Back 9

Class 3 – 1st: Dan Chambers (20) – 33pts

2nd: Michael McDonagh (24) – 32pts

3rd: Garvan Evans (20) – 30pts

Front Nine: 1st: George Carlton (15) – 18pts, Last 6

2nd: John Lavelle (9) – 18pts

Back Nine – 1st: John Loughlin (17) – 18pts

2nd: Brendan Bracken (12) – 17pts

Visitors Prize – 1st: Gerry Pembroke (14) – 33pts

2nd: Jim Cosgrove (12) – 28pts, Back 9

Past Captain's Prize – Tony Gillen

Longest Drive – Robert McGrattan (301 meters)

Nearest the Pin on 9th hole – Michael Wyse

Honest Golfing Prize – Kieran Tighe.



Michael Murphy, ABB, sponsors with Sean Farrell and Captain Frank Somers.



Michael Murphy, ABB, sponsors with Captain Frank Somers and Tony Gillen.



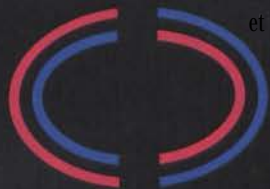
Captain Frank Somers with Secretary Brendan Keaveny.



Michael Murphy, ABB, sponsors with Michael McDonagh and Captain Frank Somers.



Captain Frank Somers with ex-officio Brendan Bracken.



et al.: BS News

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COMMERCIAL BOILERS

Boilerhouse the Heart of Buildings ... not a Dumping Hole!

When the editor rang me looking for some words of wisdom to complement the feature on commercial boilers in this issue, I agreed to give the matter some thought and see what I could come up with. Following a few days of fairly serious reflection, I decided that there are quite a number of issues that are worthy of further discussion.

Commercial boilers can be found in our hotels, pubs, schools, churches, office blocks, banks and a whole variety of other locations. They are generally used to provide space heating and domestic hot water in the places we work, worship and spend our leisure time. These boilers are workhorses that operate in the background, out of sight and all too often out of mind.

In Ireland approximately £500 million is spent each year on liquid and gaseous fuels which are subsequently burned in boilers in the industrial, commercial and residential sectors. Approximately one third of this spend (ie £170 million) is accounted for by the commercial sector.

Boiler efficiency

It is quite some time since any serious research of measurement work has been done on these boilers by the State Sector, but experience would lead me to the conclusion that the lessons learned in the past are still relevant today. During the period when the National Boiler Testing Service was in operation, every boiler in the country rated at 70kW was tested at least three times by a team of expert energy technicians. This service was provided free of charge. At

that time we estimated that there were 10,500 boilers tested under the scheme, 9,000 of which would have fallen into the commercial boilers category.

Analysis of the data gathered during these tests indicated that the average commercial boiler was operating with a combustion efficiency 5% below optimum. Amazingly, the cost of fuel has hardly changed in the interim and the average loss of £350 per boiler per year probably still holds true, but is only the tip of the iceberg in terms of what is being wasted in the commercial sector.

The issues of boiler efficiency has since been addressed by the European Community who, in consultation with Member States, introduced a Directive on Minimum Efficiency standards for hot water boilers fired on liquid or gaseous fuels. Council Directive 92/42/EEC sets out the requirements for boilers rated between 4kW and 400kW. This Directive has been transposed into Irish Law and is covered by S.I. No. 260 of 1994. These regulations were subsequently amended by S.I. No. 72 of 1995 to take account of the introduction of the "CE Mark". These amended regulations cite the principal regulations as S.I. No. 260 of 1994.

While these regulations officially came into effect on 1 August 1994, they did not



Virgil Bolger, Irish Energy Centre. Tel: 01 - 836 9080.

come into full effect in Ireland until 31 December 1997, because of the existence of an Irish standard covering boilers that was in force before 21 May 1992. In essence, what these regulations do is to make it illegal to place on the market or put into service any boiler that does not comply with the efficiency requirements set down in the regulations.

The Matched Pair

In the same way that we would not buy a pair of shoes that are not matched, ie one black and one brown, neither should we go down the road of cherry-picking when it comes to selecting a boiler and burner. Boilers and burners must be matched to get the best performance, and meet the minimum efficiency requirements. Furnace pressures, residence time and gas exit velocities are just a few of the parameters that have to be taken into account when matching these pieces of equipment. If you do mix-and-match, you are almost certainly breaking the law, unless you have consulted with the boiler manufacturer

and then abided by his/her recommendation.

Tip of the Iceberg

I mentioned earlier that the savings achievable through improved combustion are just the tip of the iceberg; let me explain. There are far too many systems in everyday use that are badly maintained, poorly installed and inadequately controlled. If perchance we fit a new boiler into a system without addressing the inherent faults in the system, we might as well be whistling in the wind. The performance of the new boiler will be limited by the system defects and may not necessarily show the improved level of performance you would expect.

Inadequate temperature control in a building can increase fuel consumption by 10% for every 1°C of overheat. How many boilers are there out there that were solid fuel and have been converted to oil or gas? The majority of these boilers don't stand an earthly chance of performing in a manner even closely resembling optimum efficiency. How many boilers are there in operation that only see a service man when they splutter to a halt, and are in serious need of maintenance and cleaning. Every boiler should be serviced at least once per year, whether it is deemed to need it or not. This is the only way we can ensure that a boiler will be reliable, safe and efficient.

This is not an area where we should skimp and we are only fooling ourselves if we hire in a "Cowboy" from the nearest ranch to do the job on a least-cost basis ... you might as well be throwing your money in the combustion chamber for all the good it will do.

The Boilerhouse Storeroom

It never ceases to amaze me just how much junk

Category of boiler	Range of power output KW	Efficiency at rated output		Efficiency at part load	
		Average boiler-water temperature (in °C)	Efficiency requirement expressed (in %)	Average boiler-water temperature (in °C)	Efficiency requirement expressed (in %)
1. Standard Boilers	4 to 400	70	≥84 + 2 logPn	≥ 50	≥80 + 3 logPn
2. Low-temperature boilers (*)	4 to 400	70	≥87.5 + 1.5 logPn	40	≥87.5 + 1.5 logPn
3. Gas condensing boilers	4 to 400	70	≥91 + 1 logPn	30 (**)	≥97 + 1 logPn

Table 1

Today's professional installers
wouldn't stake their reputation
on anything less.

INSTALLERS

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31 March 2000



Today's heating systems don't come cheap. Of course you can compromise here and there, but when long life and reliability, not to mention your reputation as an installer could be on the line, why risk anything less than a Grundfos circulator? Our Selectric and Super Selectric domestic circulators have been Ireland's favourite

choice over many years. Our continual product development programme is your guarantee for high quality, optimum efficiency and long life. So the next time you fit a pump, don't compromise - make sure it's Grundfos.

GRUNDFOS

C O M M E R C I A L B O I L E R S

commercial boiler users can manage to cram into their boilerhouses. This is a pet hate of mine and if I were a Judge I would certainly make this a "Hanging Offence".

Apart from the enormity of the safety hazard posed by this practice, it can be practically impossible to get near the boilers to do any kind of work. This is a practice that insurance companies should clamp down on, and designers and installers should take into account and prevent if possible. The boilerhouse should be the heart of the building, not a dumping hole.

Customer Information & Operating Instructions

As someone who visits a tremendous number of boilerhouses every year, one of the things I have noted in my travels is that I seldom, if ever, see any form of operating instructions in any boilerhouse, be it industrial or commercial. The absence of such instructions serves no one well.

If the owner can do something wrong there is a fair chance that he, or someone acting on his/her behalf, will do just that. The resultant mess usually has to be cleaned up by someone else ... the service man, the installer, or the consultant, or maybe all of these. Even very simple basic instructions tailored to the installation could save a lot of headaches.

Conclusion

There is no doubt that the boiler equipment available to us now has improved dramatically over the years. We have also seen a tightening up of "Building Regulations", and we all have access to information on "Best Practice" associated with the installation and control of boiler systems. There is no longer any excuse for having boiler systems that perform badly.

If we were all to adhere to best practice – be it for new installations or retrofits – we could make a tremendous impact in terms of reliability, safety, energy efficiency and greenhouse gas abatement. In the perfect world I would hazard an educated guess that 20% of the £170 million spent every year on fuels for commercial boilers could be saved. This would represent a saving of £34 million and a reduction in CO_x emissions of 2.4 million tonnes each year.

Rendamax R2700/R3400 Series Boilers

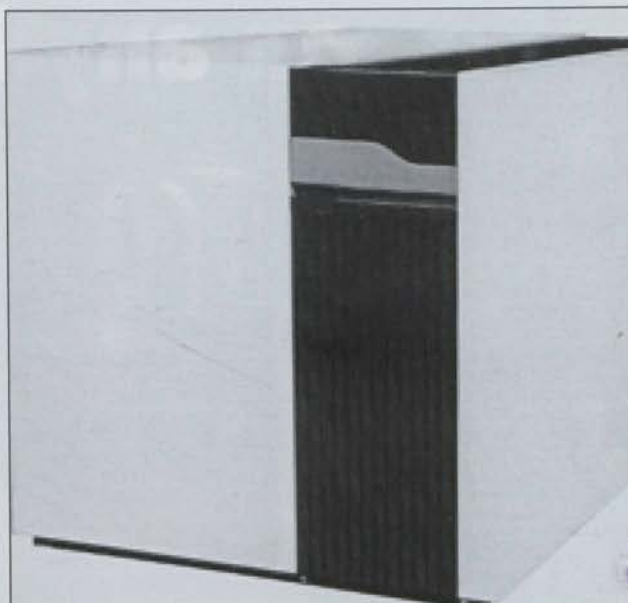
Euro Gas Ltd, are pleased to introduce the new Rendamax R2700 and R3400 Series boilers to the Irish Market. Since its beginning in 1968, Rendamax has built up a strong reputation in industrial and commercial applications throughout Europe for the development, production and marketing of gas-fired, high-efficiency boilers and water heaters in the 60kW to 1200kW range.

Through their unique construction methods, these central heating boilers and water heaters are renowned for their:

- ☐ High thermal efficiency
- ☐ Environmental friendliness
- ☐ Light weight and small dimensions
- ☐ Durability
- ☐ Low noise production
- ☐ Large regulation range
- ☐ Available with many different options

Through their continual research and development, Rendamax remain at the forefront of boiler and water heater technology. Hence the development of the R2700 and R3400 series boilers.

The R2700 Series is available in an output range of 95-597kW while its big brother, the R3400 Series, is



Rendamax Series R3400 Series boiler from Euro Gas.

available from 657-1189kW. They are environmentally-friendly modulating gas-fired heating boilers that can modulate from 25% to 100% of its maximum capacity. They also have extremely low emissions of NO_x (12/37 ppm) and CO (2/11 ppm), so that the boilers satisfy the most stringent European requirements. This, combined with a gross efficiency of 94% (nett efficiency of 103.7%), means that the boilers are at the forefront when it comes to specifying the very best equipment at competitive prices.

The high efficiency and low NO_x is achieved by mixing air via a speed-controlled fan with the incoming gas in the correct proportions. This gas/air mixture is passed through a cooled pre-mix burner, which fires vertically downward over heat exchangers constructed from smooth and laser-welded finned stainless steel pipes, which form the heat exchangers. These exchangers are fitted with cast iron profiled water distribution headers, which guarantee optimum flow rate through the appliance.

Standard features of these boilers include:

- ☐ Boilers are fully assembled complete with casing fitted
- ☐ Gas filter fitted
- ☐ Boiler pump fitted
- ☐ 25% - 100% modulation as standard
- ☐ Safety valve fitted
- ☐ Flow pressure switch fitted
- ☐ Anti vibration mountings
- ☐ Small flue diameters
- ☐ Small boiler footprint

These boilers are also available in a room-sealed option, which can replace awkward flue runs or fan dilution systems, cutting down on cost, noise and maintenance. Full boilerhouse controls and boiler sequencing are also available.

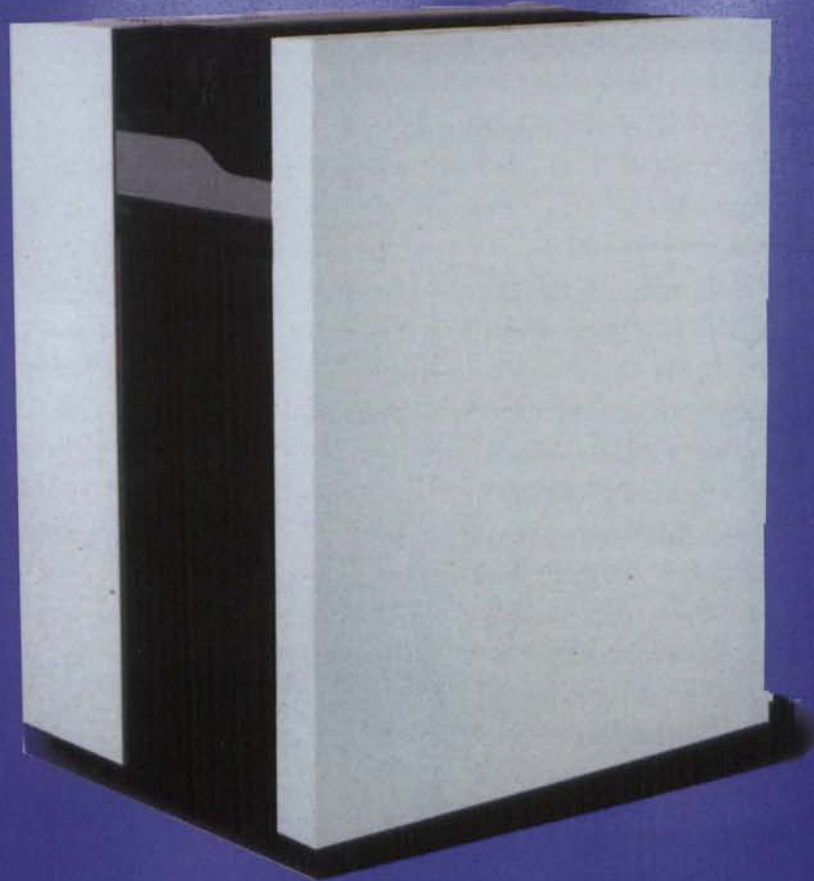
For even more environmentally-friendly and efficient options, these boilers can be offered in the R2900 and R3600 Series condensing boilers with efficiencies up to 96%.

Recent jobs completed include:

- ◆ Guilt Street Office Development
 - ◆ Trinity College
 - ◆ Tesco Ireland
 - ◆ Grand Canal Plaza
 - ◆ The Law Library
 - ◆ The Blood Transfusion Services Board
- Contact: Des, Pat or Martin at Euro Gas Ltd.
Tel: 01 - 286 8244.

Series R2700 & R3400

Modulating Gas Boilers with outputs from 95kW to 1189kW



DISTRIBUTED BY:

EURO GAS LTD.

Unit 36B, Southern Cross Business Park, Boghall Road, Bray, Co Wicklow.

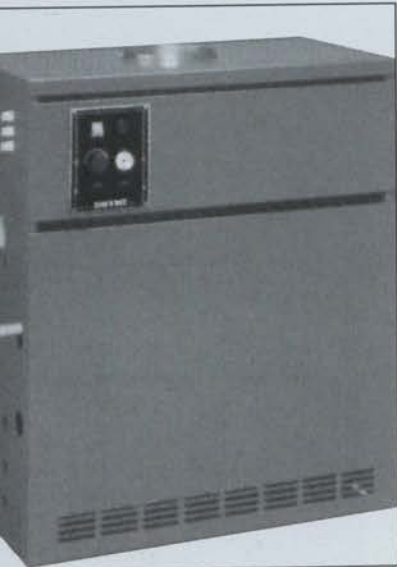
Tel: 01 - 286 8244; Fax: 01 - 286 1729; eMail: eurogas@indigo.ie



COMMERCIAL BOILERS

Chappee, Hamworthy & Sime from Hevac

When it comes to commercial boilers Hevac offers specifiers and installers a formidable armoury of solutions, irrespective of the application or requirement. The composition of its



Sime boiler from Hevac's commercial and industrial range

product portfolio has been carefully structured to ensure that all needs can be satisfied with high-quality, brand-leading boilers from some of the world's foremost manufacturers. These include Chappee, Hamworthy and Sime. Brief details of the product ranges of each are as follows:—

Chappee — CICH of France manufactures the Chappee range of boilers which includes sectional cast iron, steel commercial, and industrial hot water boilers.

The Arizona reverse-pass steel boiler with outputs ranging from 80kW to 2500kW, and the renowned NXR3 and NXR4 cast iron boilers with outputs ranging from 90kW to 800kW, ensure high efficiency, quality boilers for every commercial and industrial application.

Hamworthy — Hamworthy has been the UK's leading boiler manufacturer for more than 30 years, producing high-quality commercial boilers and associated equipment for customers in both the private and public sectors.

Hamworthy is BS EN ISO 9001 accredited and supplies European CE Certified boilers, offering a wide range of modular systems. Hamworthy also manufactures high-efficiency atmospheric condensing and pre-mix modular boilers in a variety of configurations.

Hamworthy gas-fired boilers are suitable for both natural gas and LPG, or alternatively there is the power flame series solutions using oil, gas or dual fuel.

Complementing the Hamworthy boiler portfolio is a range of supplementary products such as boiler sequence control systems, direct gas-fired water heaters, flue design options, etc.

Sime — Sime is the largest manufacturer of cast iron boilers in Italy, the production plant in Verona being one of the largest and most sophisticated in the world.

The Sime product range includes sectional boilers with outputs ranging from 17.5kW to 287kW for use in association with pressure-jet oil or gas burners.

Also available from Sime is a comprehensive range of cast iron atmospheric gas boilers for use with LPG and natural gas, with outputs ranging from 22kW to 287kW.

Full details on the entire range — plus copies of Hevac's comprehensive new full-colour brochure — are available from the company.

Contact: Karl Carrick, Commercial & Industrial Manager, Hevac.
Tel: 01 - 830 1211.



Chappee NXE4 cast iron boiler from Hevac.



From the extensive Hamworthy range of commercial and industrial boilers distributed by Hevac.

Fulton Boiler Works, (Great Britain) Ltd.

Series 'E' Gas & Oil Fired Steam Boilers

96 - 960 kg/h



- Fully packaged fuel fired steam boiler.
- Nine sizes:
96 - 960 kg/h. (F&A 100° C)
- 5 year warranty.
- Constructed to BS 2790 1992 as standard.
Other specifications available.
- Fulton Gas, Oil & Dual-Fired low NOx burner.
- Operating pressures up to 10.34 bar.



Certificate No. FM 28400

Concord Boiler Engineering Ltd,

Marrowbone House, Marrowbone Lane, Dublin 8.

Tel: 01 - 453 2727/8/9; Fax: 01 - 453 3849

BYWORTH

Quality through design and workmanship PACKAGED STEAM BOILERS

PRINCIPAL ADVANTAGES

- ◆ Low heat transfer due to generous heating surface.
- ◆ Output ratings easily achieved without overstressing boiler
- ◆ High steam volume due to large shell diameter
- ◆ High quality dry steam under varying load conditions
- ◆ Low NOx emission design
- ◆ High integrity welded construction
- ◆ Substantial tube plate ligaments (in excess of BS requirements)
- ◆ Combustion chamber tube plates J-prepped and tube ends TIG-welded

A CHOICE OF OPTIONS

A choice of equipment options is offered with the Yorkshireman, designed to meet various operational requirements of the customers. These include:-

- ◆ Burners (choice of type and make)
- ◆ Full boiler management system including oxygen trim
- ◆ Factory mounted standby feed pump
- ◆ Byworth (or equivalent) self monitoring water level control
Modulating water feed
- ◆ Timed bottom blowdown
- ◆ TDS control
- ◆ External flot level controls with sequencing blowdown valves
- ◆ Boilers can be built left or right handed



Byworth Hire – Mobile Hire Fleet

Our modern fleet of mobile boilerhouses enables us to quickly respond to your most urgent demands. The Byworth fleet can meet steam demands up to 15,000 lbs/hr and hot water up to 3 million Btu's, with working pressures up to 250 psi.

Byworth Hire provides a fast, reliable service by utilising our own fleet of trailer-mounted, demountable and containerised units; each offering a fully-equipped boilerhouse package capable of quick and simple 'hook-up' to existing services.

Offering mobility and choice ... performance and service

By maintaining our mobile hire fleet to very exacting quality standards Byworth Hire ensures continuity of service, high operational efficiency, performance and maximum reliability. Operating our own fleet of delivery vehicles, supported by experienced teams of site engineers, enables Byworth Hire to get your steam or hot water services back into operation with the minimum of disruption and downtime.

Byworth High- Quality Packaged Boilers

Byworth, the trade name of Dennis Baldwin & Sons, is known and respected worldwide for manufacturing reliable steam boilers to the highest standards. The company was established in 1970 and, with its well-equipped workshops and a skilled and dedicated workforce, was soon at the leading edge of the industry.

Over the years, Byworth reverse-flame boilers and three-pass wetback boilers have remained best sellers, forming a solid basis for continued development. This policy of progressive R & D has brought the benefits of state-of-the-art technology to its customers and underpinned the company's success. This standing in Ireland was further enhanced



Byworth MX Series 1500 reverse-flame packaged boiler from KB Combustion.

with the appointment of KB Combustion as distributors.

Byworth has had the confidence to meet the ever-increasing demand for its boilers by expanding rather

than relying on sub-contractors. This ensures the highest levels of quality control, increases production flexibility, optimises lead times and of course means that a Byworth boiler is truly a Byworth.

The breadth of the Byworth range is impressive by any standards. Steam duties from 500 - 35,000 lbs/hr and hot water duties from 1 million - 35 million BTU's are available in the Byworth range, in either reverse-flame or three-pass configuration, with the option of oil, gas or combination firing. Any application can be undertaken, from a small hot water boiler for office heating to the most complex integrated boiler house installation.

Manufactured and assembled by qualified engineers, with a strong emphasis on traditional craftsmanship, all Byworth boilers are built and tested to the strictest codes and conform to the latest British

Standards. Only the finest materials and components are used, ensuring consistent high performance, reliability and extended service life.

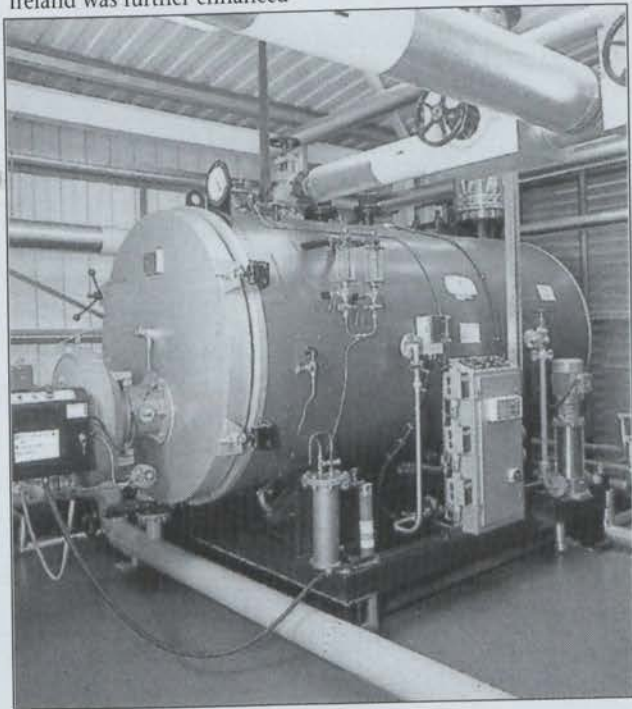
In addition, the highest priority is given to ease of access, significantly reducing the cost of cleaning, maintenance and inspection.

With computer-aided design and a wealth of experience, KB Combustion offers full site surveys, working alongside architects and consultants to produce cost-effective boiler house layouts. Special or modified Byworth boilers can be designed and produced to order.

Byworth boilers are produced as a complete package requiring the minimum external connections. Fully skilled and certified KB Combustion engineers can carry out the installations, and all work is well organised to avoid costly downtime.

The team can also provide commissioning, handing

Continued on page 18



The Byworth range from KB Combustion is available in reverse-flame or three-pass configuration.

COMMERCIAL BOILERS

over and operator training anywhere in Ireland.

Maintaining continuous hot water/steam generation can be critical to many production situations. In response to this, KB Combustion stocks a complete range of Byworth spares and manufactured ancillaries for all boilers.

Contact: Gordon McCabe, KB Combustion.
Tel: 01 - 456 4095.

Concord Boiler Services

Concord Boiler Engineering prides itself on the reputation it has built in boiler engineering. Its installation, service and boiler specialists are available to tackle any project, efficiently and economically.

Technical staff will advise clients on the type and size of package most suited to their needs, giving a detailed

breakdown on all components in the package.

Concord Boiler Engineering also offers a unique fast, efficient and cost-effective boiler hire service.

Major overhaul work and repairs are carried out by highly skilled engineers and coded welders on site, or in Concord's well-equipped Overhaul & Repair Centre. All works are carried out to BS 2790 standards and meet with the requirements of insurance companies and certifying authorities.

An Irish distributor for Fulton, Concord Boiler Engineering carries an extensive range of boilers from this market-leading brand.

Fulton Boiler Works was formed in 1966 and has been manufacturing boilers for over 30 years. Fulton manufactures a range of steam boilers and hot water heating boilers which are used worldwide in diverse applications. Steam is still widely specified in industry and commerce for process and indirect heating.

The Fulton reputation has been built on quality of product and service, where all boilers are to BS and Safety Codes for the UK and Ireland, and to most other national codes and standards to meet customer specification.

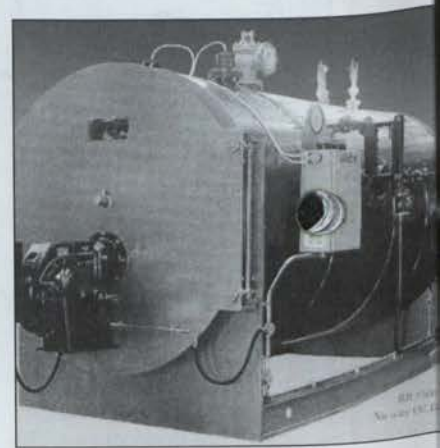
It is Fulton policy to give a comprehensive customer service facility and all boilers are certified to BSEN ISO 9002 1994. This covers all aspects of manufacture, administration and service. Steam boilers can be supplied from 45 LB-WR to 45,000 LB-HR in std form or in fully-packaged, pro-galvanised plan room.

The Fulton range of products comprises the following:-

Series E Vertical, Tubeless Steam Boilers - fully-pack-

aged and constructed to BS 2790 1992, with operating pressures to 10.34 bar, firing on oil or gas and a range of outputs from 96 kg/hr to 960 kg/hr;

RB Model Horizontal Firetube Boilers - Fully-packaged and constructed to BS 2790 1992, with operating pressures to 10.34 bar, firing an oil or gas and a range of



Fulton RB Horizontal Steam Boiler (957 - 4787 kg/h) from Concord Boiler Engineering.

outputs from 96 kg/hr to 4,787 kg/hr;

Electric Flash Steam Generators - fully-packaged and constructed to BS 1894 1992, with operating pressures to 10.34 bar and a range of constant outputs from 23 kg/hr to 160 kg/hr. This range is also available in stainless steel for clean steam applications.

Thermal Fluid Heaters - the Fulton association with Thermal Fluid heaters is through the Fulton Thermal Corporation in the USA with a complete range available from 25kW to 3,525kW outputs, firing on gas, oil, dual or electricity and with operating temperatures up to 345°C. These heaters are built to ASME Section 1 Construction Code (BS 2790 1992, Class 2).

Contact: Jim Byrne, Sales Manager, Concord Boiler Engineering.
Tel: 01 - 453 2727;
Mobile: 087 - 250 9387.



Fulton Electropack Automatic Electric Steam Boiler (15kW to 100kW) from Concord Boiler Engineering.

Hevac Limited INDUSTRIAL & COMMERCIAL HEATING

EVANS
UNIVERSAL



sime
Heating Equipment



CHAPPEE



state
WATER HEATERS



CHAPPEE

As Ireland's foremost leader in the supply of boilers, burners, heaters and flues, we at Hevac clearly recognise the importance to you of tailor-made solutions for each and every application.

We believe success starts with a clear understanding of a customers wants and needs. To this end fostering a relationship with all of our clients from the outset is seen as paramount in achieving the best quality standards.

You can be confident that all the wealth of product knowledge and practical experience attained at Hevac is at your disposal. From initial consultation through product identification, installation and final commissioning. No one will work harder with you because we are proud of our reputation and continue to strive for standards in excellence. We know you expect no less.

NU-WAY



SELKIRK



HAMWORTHY
heating products



BENSON



h **Hevac Limited**

Ireland's No. 1 Service Provider

REFRIGERATION

Technician Certificate in Refrigeration & AC

Regardless of where we go today we are confronted more and more requirements and constraints. This is true for the home, office, factory, leisure centres, hospitals, shops, churches etc. These requirements manifest themselves by way of increased demand for air-conditioning/refrigeration. The need to move, heat, cool, humidify, dehumidify and distribute air is now big business. In today's Ireland air-conditioning is standard, and even for the middle of the road car.

We've come a long way from the '20's in Buffalo, New York, and the first air-conditioning units developed with the help of the recently developed freon gases. These luxuries are no longer for the wealthy Americans and Arab princes. The Celtic Tiger is also aware of his environment. He demands and can afford the best. Architects, consultants, developers, and suppliers are equally *au fait* with these increasing demands.

A large proportion of today's developments incorporate the varied equipment necessary to maintain comfort levels, and rightly so. Consider for a moment the ever-increasing usage of the simple computer, printers, scanners, fax machines ... it is a revealing exercise in itself to assess the heat generated by this type of office equipment. It is no longer adequate to open

the window. Open-plan office developments do not readily respond to this solution.

Most of our "silicon valley" type industries are only too well aware of controlling the environment and no doubt we have all seen the employees toggled out from head to toe in disposable uniforms and operating in clean, controlled environments. Similarly, the textile industry is

heavily dependent on the controlled environment to maintain trouble-free production. Food outlets, of the fast and slow variety, are mushrooming right around the country.

Our air-conditioning and refrigeration specialists are stretched to fill these demands and are not immune when it comes to the difficulties of filling vacancies. Short-term solutions and fire brigade type activities are not sufficient for the long term well-being of the industry. To avoid another Y2K problem we must now shift our focus to maintenance

(preventative and reliability centred) and repair. Longer well-established industries have benefited enormously from studies and developments in these areas. There are software packages developed which can be customised to the individual needs of a company to minimise expensive down-time and repair. But we must have the right type of personnel, i.e. personnel trained in the technology, hardware and controls.

Dublin Institute of Technology, Bolton St, has been – and continues to –
Continued on page 25

Sector to benefit from Network Training Initiative

Applied Technology Services – an industry centre of the Dublin Institute of Technology – has secured initial funding under the Skillnets Training Networks Programme towards the promotion and establishment of an industry training network for the refrigeration technology sector.

The network will seek to address the joint training needs of enterprises engaged in the design, manufacture, distribution, installation and maintenance of refrigeration technology for Irish industry. "Our aim is to mobilise refrigeration enterprises to develop strategic answers to their joint training needs", says Enda Hogan, Manager of Applied Technology Services, the network promoter. "We will assist in the formation of the network, the assessment and prioritisation of common training needs, and the design of a training programme to meet those needs. After that, the members take full ownership of the network".

As soon as the network is established and a training programme has been agreed, funding of up to 75% of the cost of implementing the programme can be secured.

The network promoter is anxious to point out that it is intended that network training activities complement, rather than replace, the ongoing training activities of individual enterprises. However, when it comes to industry-wide training, enterprises will gain a greater say in the content, delivery certification and timing of the training programmes available to their industry.

It is hoped that refrigeration engineers will welcome the open forum that the network will offer to discuss common concerns with regard to skills development in the industry. The arrival of new environmental and safety legislation, the impact of new technologies on refrigeration engineering, and the more general problems of labour supply and skills shortage; each of these concerns are more readily tackled through collaboration, innovation and exchange of best practice.

Applied Technology Services was established by the Dublin Institute of Technology in January 1999 to provide demand-led research, consultancy and training services to the mechanical engineering and manufacturing sector. The establishment of this network is being facilitated by the involvement of both the Department of Engineering Technology and the Department of Refrigeration & Plumbing at DIT Bolton Street.

Contact: Enda Hogan at Tel:01 - 878 3773; or visit the website, www.dit.ie/ats

et al.: BS News
HIROSS

Advanced Cooling Technologies

Flexible Space System

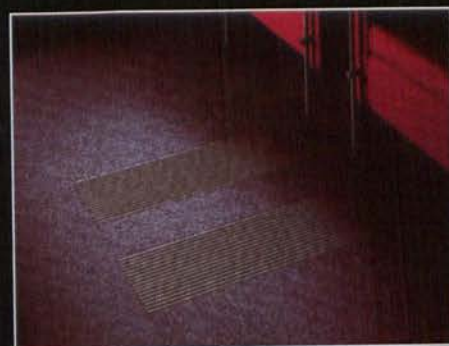
Indoor Environment Technology



Conditioned Air Module



Console Terminal Unit



Floor Terminal Unit



AIR CONDITIONING LTD

Unit C1, Three Rock Road,
Sandyford Industrial Estate, Dublin 18.
Tel: 01 - 294 3110; Fax: 01 - 294 3115.
eMail: coreac@iol.ie



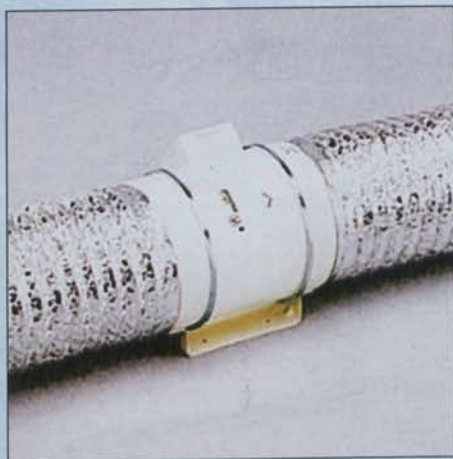
Compact Series. Airflow from 500 – 22400m³/h
General ventilation



Compact portable series. Airflow from 2250 – 16450 m³/h. Personnel cooling, drying installations, work areas etc



HDT series. Flameproof axial fans. Type Eexd IIBT5 or Eexd IICT4 motors. Airflow from 100 – 13000 m³/h



Mixvent system series. Airflow from 130 – 1990m³/h. Designed to solve Ventilation problems requiring ducting



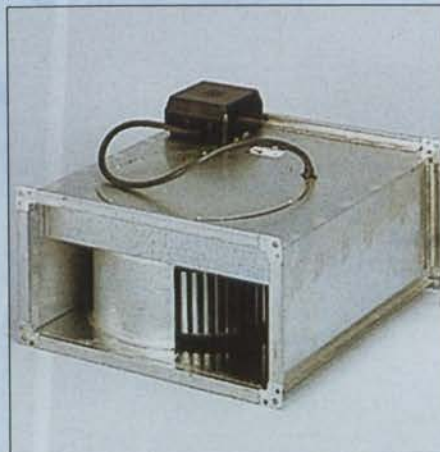
Mixvent TH roof units. Airflow from 380 – 1725 m³/h. Supply or extract systems



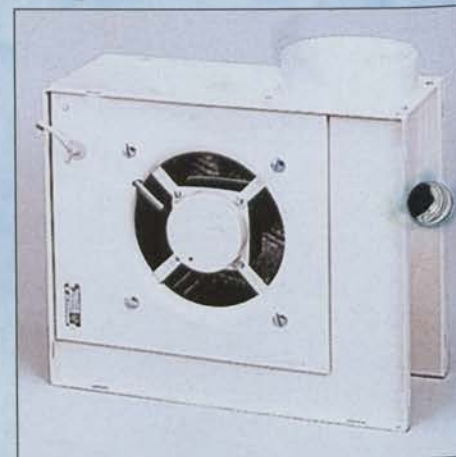
Max-temp series. Centrifugal roof extract units for commercial kitchens and smoke extraction systems. 400 deg. 4 hr rated. Airflow from 500 – 22000 m³/h



HCTB-HCTT Series. Axial roof fans. Airflow from 1500 – 14180 m³/h



Direct-air series. Centrifugal in-line fans for rectangular ducting. Airflow from 1100 – 10235 m³/h



CKB series. Powerful centralised ventilation for dwelling houses. Airflow from 600 – 2000 m³/h

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** Air Management Engineers **

All Products and Controls are Y2K Friendly

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VENTAC

** Air Management Engineers **



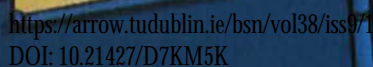
**Very often,
the success
of your project**

is up in the air

Ventac & Company Ltd, 11 Fitzwilliam Quay, Ringsend, Dublin 4.

Tel: 01 - 667 1077; Fax: 01 - 667 1055; Email: vent@iol.ie

THE SILENT CHILLER



offer a City and Guilds 2-year, Technician Certificate in Refrigeration Science that is well recognised throughout the industry, and also internationally. It should be noted also that many countries require personnel working in this field to be licensed to practice and consequently, it is even more important for those contemplating working abroad to ensure that they are adequately trained in their chosen field.

Course Details: Year 1. Technician Certificate (Course No. 2570) awarded by City & Guilds of London. Monday, (Engineering Science and Maths); Wednesday (Refrigeration Processes and Plant); and Thursday (Safety, Materials and Drawing) of each week, for three hours per night, 7pm to 10pm.

Contact: Mr. Ben Costelloe, Assistant Head, Department of Engineering Technology.

Tel: 01 402 3826.

Stulz Modular Series Air Conditioning & Chillers

Walkair offers Stulz Modular-Line air conditioning systems to meet the precision cooling requirements required by electronic areas and process equipment. The Stulz modular system units feature a small footprint requiring minimal floor space; are sized to fit through standard doorways for easy transportation, handling and installation at the site; and have attractive and functional cabinetry. The modular concept allows easy future expansion, automatic duty sharing, 100% redundancy, and stand-by capacity to meet peak loads.

The Modular-Line provides precise control of temperature and humidity along with filtered air for telecommunications centres, computer rooms and other areas requiring close tolerance control of the environment on a continuous basis.

The Stulz advanced CompTrol 5000 microprocessor provides precise control of all functions, monitors unit status and indicates any malfunctions with alarms. The controller is user-friendly, in plain language, and allows set points to be easily entered via the unit keypad; or by an open interface to central building management systems; or by modem to remote sites. Interfaces are provided for PC, printer and diagnostic testing.

The Modular-Line series

provides users with easy future expansion as modules can be easily added instead of buying complete new systems. All access for service is from the front for easy service. Capacities are from 15kW to 230kW, with over 200 configurations and options to meet any special application requirements.

Stulz is one of the world's largest manufacturers of environmental control system and offers a wide range of precision air conditioning and humidification systems.

Contact: Vincent Mahony, Walkair.
Tel: 01 - 456 8070.

Danfoss 'TUA' Series of Expansion Valves

Danfoss has launched a new range of stainless steel TUA expansion valves for fully-automated, process-oriented production. To maximise inventory flexibility, the new range provides a choice of 10 orifices.

The new units are available with capacities from 0.6kW to 16kW and are designed for use with all fluorinated refrigerants. Every unit is compact, features a replaceable orifice, while still maintaining a full hermetic seal and, as a result of bi-metallic connections

Continued on page 26



Stulz modular series air conditioning and chillers from Walkair.

REFRIGERATION

developed by Danfoss, soldering only involves copper tubes and connectors with copper surfaces, and can be brazed exceptionally quickly.

"The new valves may appear to be simple products, but they are made on one of the most advanced production lines in the world, and are the result of years of development", says David Killalea, Danfoss' Sales Director for Refrigeration and Air Conditioning products.

"As a small example, the thermostatic element in the new valves are laser welded in a fully-automatic process to ensure the joints are as strong and durable as possible. Additionally, this technique means that the power element receives very little heat during



Danfoss TUA/TUAE solder valves from J J Sampson & Son.

assembly, so the TUA's diaphragm maintains its original structural integrity, greatly extending its life".

Every valve in the new range benefits from a strong and ductile stainless steel capillary tube, a strainer mounted on the orifice assembly for easy maintenance and cleaning, a bulb with a double contact surface for fast, safe and convenient mounting, and an Allen key superheat setting. The use of an Allen key, as opposed to the more traditional screwdriver is, maintains Danfoss, convenient, uses less space, and is also potentially more precise.

Contact: Dave Killalea, J J Sampson & Son.
Tel: 01 - 626 8111.

A breakthrough in elec-

ENERGY SAVINGS ON WATER CHILLERS WITH DANFOSS ADAP-KOOL® SYSTEM



- ◆ Simple to install in new or existing systems
- ◆ Close optimised performance and control ensures reduced running costs
- ◆ Short payback period
- ◆ Improved plant lifetime
- ◆ Data logging and monitoring via PC/BMS



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Member of the Danfoss Group

Nangor Road Business Park, Dublin 12.

Tel: 01 - 626 8111; Fax: 01 - 626 9334

e-Mail: sampson@indigo.ie

REDBRO

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SANYO

Unit 4, 70 Heather Road, Sandford Industrial Estate, Foxrock, Dublin 18.
Tel: 01 - 294 0321/3/4; Fax: 01 - 294 0325; email: sanyoac@indigo.ie

“ECO MULTI Series”, the new individual air-conditioning system that effectively combines a power control compressor and an electronic refrigerant control valve

Environmentally-friendly HFC R407C available.

ECO_{MULTI}



REFRIGERATION

York ISN™ IsoFlow Control Centre Puts You in Control

A breakthrough in electronic engineering absorption chillers, the ISN IsoFlow Control Centre, makes IsoFlow absorption chillers the easiest to operate in the industry. Not only do you have access to performance information from one easy-to-read display, you also get data previously unobtainable without time-consuming analysis.

All monitoring and control parameters can be easily read on the large, illuminated alphanumeric display. There is no worry about interpreting special reference codes, or struggling to read imprecise gauge increments. The ISN IsoFlow Control Centre displays messages in plain English, with numeric data available in a choice of metric or English units.

A tactile-feel keypad,

divided into distinct colour-coded groups according to function, provides easy access to all chiller control and monitoring functions. Keys

Essential setpoints that can be programmed include leaving chilled temperatures; remote reset temperature ranges; 7-day schedule for unit start/stop; and pulldown demand limits which limit heat input to the unit

violate unit safety controls while trying to regain equilibrium, leading to expensive and troublesome shutdowns. The ISN IsoFlow Control Centre monitors the machine and automatically performs adjustments in a stable, predictable fashion.

York has also engineered solutions to eliminate crystallisation problems. Each IsoFlow absorption chiller is delivered with a sophisticated protection system that quickly eliminates any minor crystallisation that may occur under extreme conditions. In the unlikely event of a problem, a control-centre signal immediately opens the stabiliser valve, sending pure refrigerant water to dilute the most concentrated solutions in the machine.

Additionally, the Automatic Decrystallisation Pipe sends hot solution to warm the solution heat exchanger. This redundancy helps to ensure safe operation.

York's superior single-stage design, with heavy-duty pumps, valves and other vital components, has proven itself for over 30 years in diverse industrial and commercial applications. This rugged design, coupled with unparalleled service from the nationwide network of factory-trained York Service technicians, assures the highest degree of reliability in the industry. Contact: Andy Green. Tel: 01 - 466 0177.



The York IsoFlow Control Centre ... a breakthrough in electronic engineering for absorption chillers.

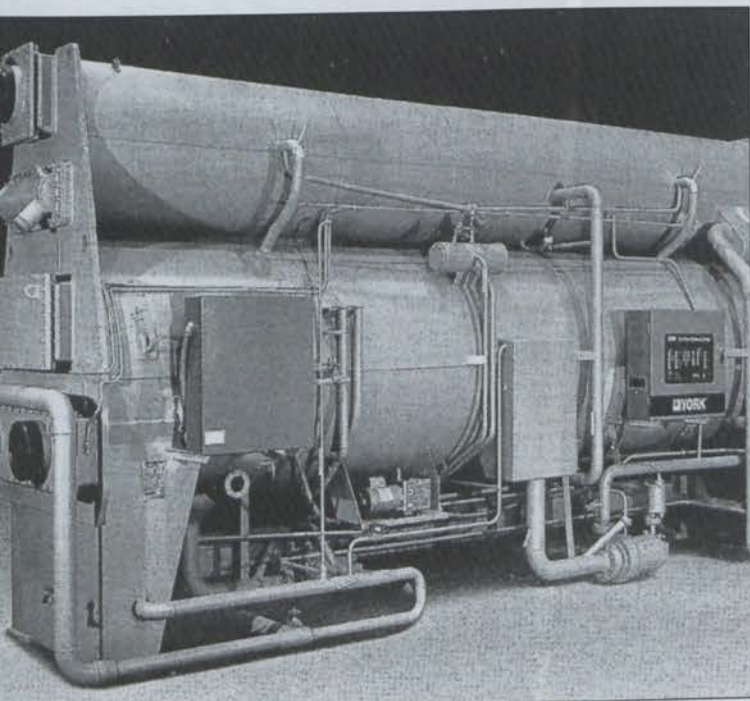
are clearly labelled and well-spaced to avoid "neighbour-key" errors, and each key is dedicated to one function, eliminating confusion.

during start-up.

A factory-supplied lithium battery (11 years rated life) provides power for safe storage of programs without external power to the panel. The IsoFlow absorption chiller maintains the same operating parameters programmed before the power failure.

A chiller shutdown can be extremely troubling, so the YORK IsoFlow absorption chiller features a sophisticated network of controls and safeties designed to correct problems before they lead to a shutdown.

In any absorption chiller, the proper balance of solution and refrigerant is a must. However, when load or condensing-water temperature change rapidly, competitive absorption chillers may



York Millennium YIA Absorption Chiller.

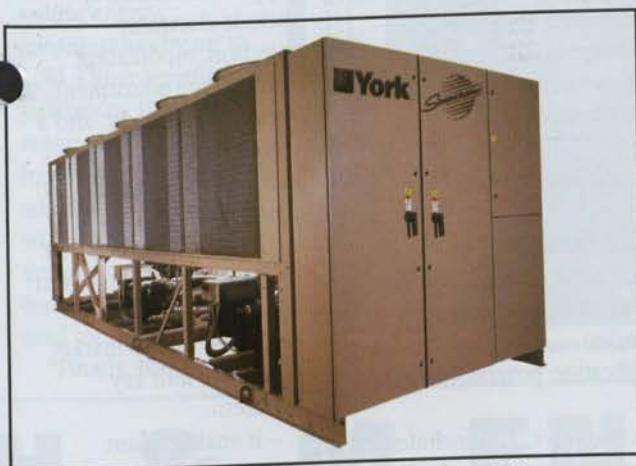


YORK INTERNATIONAL

Direct from York

Leaders in the field of
Refrigeration, Air Conditioning and Process Cooling

Full Equipment Sales, Service, Commissioning,
Maintenance and Spare Parts



The York YCAS StratoChiller air-cooled screw chiller



The York ACR unitary range is extensive, offering a comprehensive choice of solutions



York ACR's air handling units are all CE approved and factory checked before being despatched



York ACR can provide an infinite variety of refrigeration solutions, be the requirement large or small. Witness to scale of the units above which are part of the refrigeration system devised and installed in the Channel Tunnel

For further information contact:



YORK INTERNATIONAL

Unit 2004/3 Citywest Business Campus,
Naas Road, Dublin 12.

Tel: 01 - 466 0177; Fax: 01 - 466 0198.

CORK: Tel: 021 - 346580; Fax: 021 - 346586

REFRIGERATION

Climaveneta & ABB — Quality-Driven Through Research & Innovation

Climaveneta, which recently merged with the De Longhi group of companies, has been a market-leading player in the air conditioning and refrigeration sector for nearly 30 years.

That it has teamed up with ABB — itself a world-leading market player — in Ireland to ensure nationwide distribution and after-sales service support is no surprise.

Extensive investment in research and design has led to the development of the expansive Climaveneta range of innovative, energy-saving, multi-purpose chillers for commercial and residential conditioning, in addition to machines specifically designed for industrial cooling.

Climaveneta's research effort is global and concentrated not just on hardware, but also on the software of the units. For example, the intelligent microprocessing system of the units has the purpose of optimising the functioning of the multi-purpose chillers. Indeed, Climaveneta has developed a complete range of electronic microprocessor controls which can be easily integrated with "the outside world" to allow for communication with every supervisory building control system.

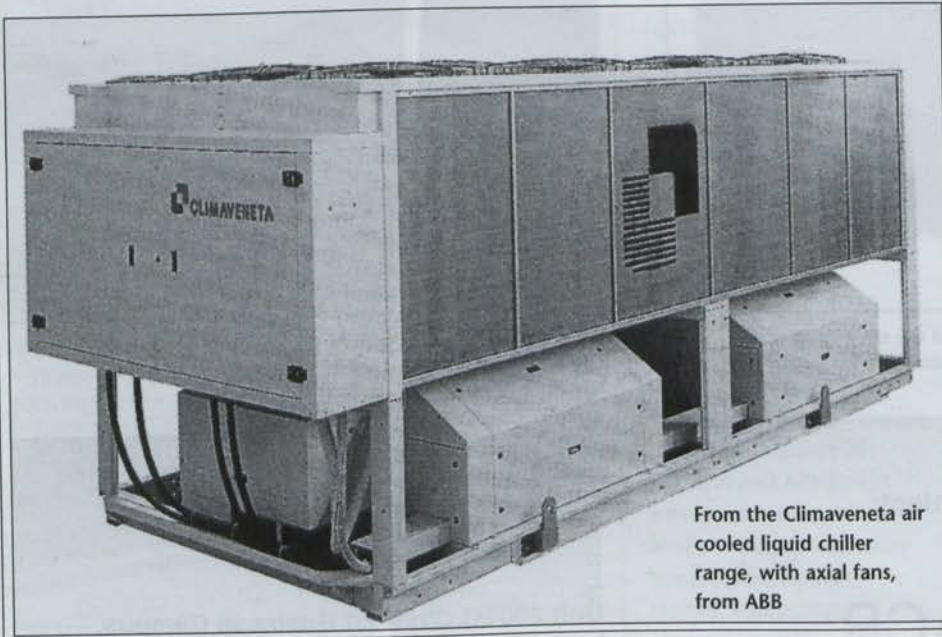
Equally important is the research and investment directed towards devising new, environment-friendly, refrigerants.

In the pursuit all these objectives Climaveneta is quality driven. A testament to its success in this endeavour is the fact that it has obtained the SQI certificate n 0035 (issued in 1992 as a rev. 0 in compliance with the ISO 9001/UNI-EN 29001 rules), and further updated in 1998 (as rev. 2 in compliance with UNI EN ISO 9001 rules).

Climaveneta has also been actively involved in the Eurovent certification programme since 1995 and all its products are listed in the Eurovent Directory.

As already indicated, the Climaveneta range supplied by ABB is extensive, and includes: Air cooled liquid chillers; Air/water heat pumps; Water cooled liquid chillers; Water/water heat pumps; Split system units; Single package roof-top units; Air cooled water chillers; Air/air heat pumps; Water cooled water chillers; and air/air roof-top units. Full product details, performance capabilities, technical data and applications are available from ABB.

Contact: Mark Grimes, ABB. Tel: 01 - 405 7300.



From the Climaveneta air cooled liquid chiller range, with axial fans, from ABB

Danfoss Cold Room Controller

Danfoss has launched a new cold room controller — the AKC 72A — which incorporates every key operating function in a single unit and has been designed specifically for ease of use. One-unit functions, all of which are supplied as standard, include electronic injection, modulating temperature adjustment, defrost on demand, and a feature which automatically logs the air temperature.

The new unit, believed by Danfoss to be the most advanced refrigeration controller in this market today, has four key features:

- It enables plant managers to see all the plant operating conditions as a single glance;
- Its clear display is simple and easy to operate – reducing the likelihood of input errors;
- The most frequently used menus have their own key – giving instant access to oft-changed settings;
- It is completely compatible with Danfoss' ADAP-KOOL® range.

"Both the defrost on demand — which is designed to help reduce energy consumption by only defrosting when required — and the automatic air temperature-logging are features designed to maintain optimum refrigerated

Continued on page 31

REFRIGERATION

quality," explains Danfoss Sales Director for Refrigeration and Air Conditioning products, David Killalea.

"As an added bonus, when used with Danfoss' AKV electronically-controlled expansion valves, the new controller has an adaptive superheat adjustment and floating condensing pressure feature which can reduce energy consumption by up to 20%. Other benefits of combining the two ranges include a modulating temperature adjustment feature which guarantees stable temperatures and humidity levels in the cold room.

"Finally, the

automatic temperature-logging ensures that the entire plant can be properly monitored and controlled. All the temperature measurements for the previous year (at 15

minute intervals) are stored in a memory which has a battery back-up and can be recalled and displayed as curves or tables for later analysis".

The new unit, which is

also available in a data communication variant for use with Danfoss' ADAP-KOOL® refrigeration control systems, will be used predominantly in the retail business and in smaller commercial refrigeration plants.

AKC 72A is designed with an innovative user interface developed in cooperation with customers. A full graphic LCD display, dedicated buttons and a quick guide/set-up function are included for easy and intuitive daily operation.

Contact:

Dave Killalea,
JJ Sampson & Son Ltd.
Tel: 01 - 626 8111.



New Danfoss cold room controller from JJ Sampson & Son.

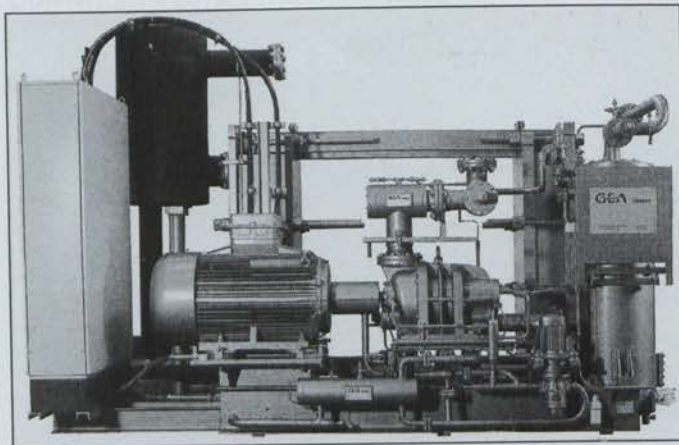
H & M ENGINEERING

Refrigeration, Water Treatment & Heating Solutions

GRASSO

AMMONIA CHILLER PACKS

- ◆ Screw & piston compressors and packs
- ◆ Ammonia liquid chillers
- ◆ Automatic air purgers
- ◆ Kuba air coolers
- ◆ Spare parts



Complete refrigeration systems catering for the refrigeration and ac market, with capacities between 200kW and 3300kW (57 tons to 939 tons). Available in water-cooled or air-cooled versions, or with evaporative condensers.

All models are equipped with a standard modular PLC SIMATIC S5 - 95U controller.

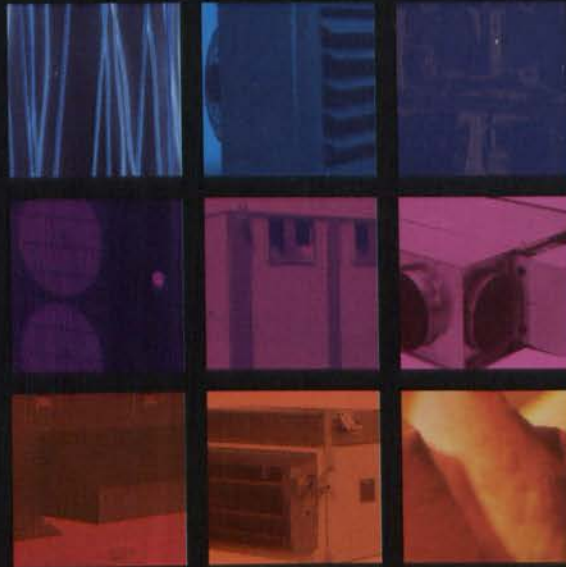
Additionally, Grasso NH₃ liquid chillers are designed specifically for the refrigerant ammonia.

Unit 1, The Ford Centre, Monastery Road, Clondalkin, Dublin 22.

Tel: 01 - 459 1470/71; Fax: 01 - 459 1475; eMail: hmeng@iol.ie

Colin Huggett: 086 - 2246309; Noel May: 086 - 8112482

expert systems.



Lennox manufactures quality equipment and builds relationships with designers, engineers, consultants and end users.

Together we can provide expert systems to suit all types of building application.

NEW

COMPACT FAN COILS

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CHILLERS WITH R407C OPTIONS

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This Company is participating in the BREEAM certification programme. Products are listed in the BREEAM Directory of Certified Products.



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E-mail walkair@iol.ie

LENNOX®

Fridge Spares Quality Performance & Solutions

Fridge Spares (Wholesale) Ltd has been delivering quality refrigeration products and services for over 30 years. Its high industry standing bears testimony to its success in this endeavour, a fact which is underscored by the long-standing relationships it has with its principal suppliers, all of whom are industry market leaders in their own right. Brief details of each of these are as follows:

L'Unite Hermetique –

Thirty-five years of manufacturing experience has led to the evolution of the most complete and technically-sound range of hermetic compressors and condensing units in Europe.

Copper condensers coated against corrosion, coupled with high electrical specifications and installer-friendly features, are examples of some of the reasons why so many

engineers worldwide choose L'Unite Hermetique as their number one. The comprehensive range spans from 1/12 HP to 12 HP and covers low, medium or high temperature ranges utilising a sensibly-selected refrigerant composite.

Copeland Corporation –

Available from the Copeland Corporation is the Prestcold range of condensing units and compressors. The Prestcold range has continually proven itself worthy of its "Prest-igious" reputation while operating in all

sectors of the refrigeration and air conditioning markets with great reliability and effectiveness.

The compressors offered range from 1/2 HP single cylinder up to 60HP eight-cylinder machines.

Friga-Bohn – The

complementary nature of the L'Unite Hermetique and Prestcold ranges with that of Friga-Bohn makes for a formidable combination which runs to the very core of the Fridge Spares product offering.

Friga-Bohn has an established worldwide reputation as the leading manufacturer of heat exchange products. The comprehensive portfolio includes commercial and industrial evaporators and condensers, and steel products, eg, suction accumulators, receivers, etc.

All Friga-Bohn condensers conform to ENV 327 while all evaporators conform to ENV 328, thereby guaranteeing full regulatory compliance.

Union Foam – Union

Foam is an environmentally-aware manufacturer of high-quality specialist foams and a leading manufacturer of high-performance, flexible synthetic pipe insulation systems.

Eurobatex is a specially-formulated system for refrigeration, condensation and air conditioning applications. It is CFC and HCFC-free and has an ozone depletion potential of '0'. It is available in wall thicknesses from 6-25mm Class '0'.

Sanyo ECO Multi – Economy & Ecology

"ECO MULTI Series", the new Sanyo individual air-conditioning system that effectively combines a power control compressor and an electronic refrigerant control valve, is now available from Redbro Ltd.

Newly-developed power control refrigerant circuit operates without an inverter control, thus decreasing electromagnetic disturbance (harmonic current emissions) and complying with EMC Standards.

Power control circuit and newly designed structural parts contribute to a major reduction in initial and running costs, and the required amount of refrigerant (approx 10% EER increase and 15% reduction of R22, when compared to the current FIT Multi System).

By using electronic control valves for linear control, the capacity of the indoor unit can be controlled from 25% to 100% (during cooling) to provide a more stable room temperature at a constant air flow rate.

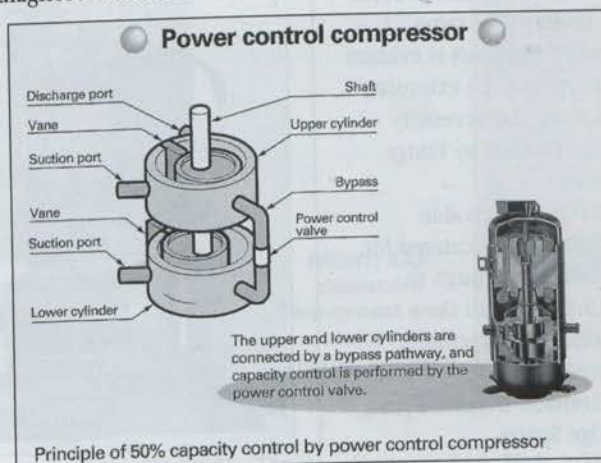
Convenient microprocessor control automatically adjusts fan speed to high, medium or low, corresponding to room sensor and maintain comfortable airflow throughout the room.

Even when power failure occurs, preset programmed operation can be reactivated once power is resumed.

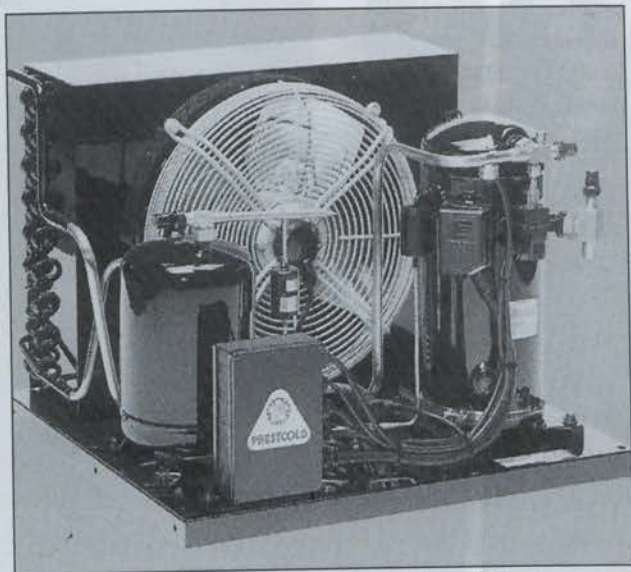
Details of past record of warnings are stored and can be verified on the liquid crystal display. This makes it easier to diagnose malfunctions and reduce service labour. A further advantage is that, these indoor units can be connected with a standard single outdoor unit (heat pump type) in case of design changes for air conditioning, thereby allowing more flexible designs than before.

Contact: Barry Hennessy, Redbro. Tel: 01 - 294 0321.

Right: All units incorporate the new Sanyo "Power Control Compressor", thus eliminating the need for a power inverter
END



REFRIGERATION



Prestcold air-cooled scroll condensing units from Fridge Spares.

Sporlan – Sporlan Valve Co is a name which is synonymous with quality expansion valves worldwide.

The extensive range of specialised expansion valves and in-line components facilitates a "perfect-fit" selection option for every application, thereby ensuring trouble-free operation. Other products within the Sporlan portfolio are sightglasses, solid-core driers; solenoid valves; pressure-regulating valves etc.

Galco – Galco is part of the Dehon Group and, as such enjoys all the benefits and strengths being part of a multi-national entails. Its filling plant has the geographical advantages of being based in Antwerp, facilitating fast and efficient distribution to all its distributors.

Galco supplies Fridge Spares with a comprehensive range of refrigerants, including drop-ins in a variety of cylinder sizes to meet all usage requirements.

Eliwell – Eliwell is renowned the world over as market leader in electronic controls for the refrigeration industry. Year on year the company continues to bring technologically-advanced and highly-innovative refrigeration and air conditioning controls to the market. In fact, over the last decade Eliwell has changed the whole complexion of this sector of the business, introducing features to refrigeration and air conditioning controls which have resulted in enormous end-user benefits.

Ancillaries, Accessories & Tools – The same quality emphasis is evident throughout the extensive ancillary and accessory range stocked by Fridge Spares.

Every conceivable requirement is catered for, from tools through to fittings, with all the leading manufacturers represented.

Contact: Dermot Byrne, Fridge Spares.
Tel: 01 - 830 3466.

Grasso from H&M Engineering

While the name H & M Engineering is not, as yet, widely known throughout the building services industry, that of its two directors – Noel May and Colin Huggett – need no introduction. Both are highly-regarded in the refrigeration sector where they are the acknowledged industry leaders in devising, designing and implementing tailored systems solutions for industrial refrigeration, process cooling and air conditioning.

H & M Engineering provides an all-embracing package. While essentially engineering products suppliers, these products are supplied against a background which considers the end-use application. Where appropriate and/or required, everything from system analysis through to

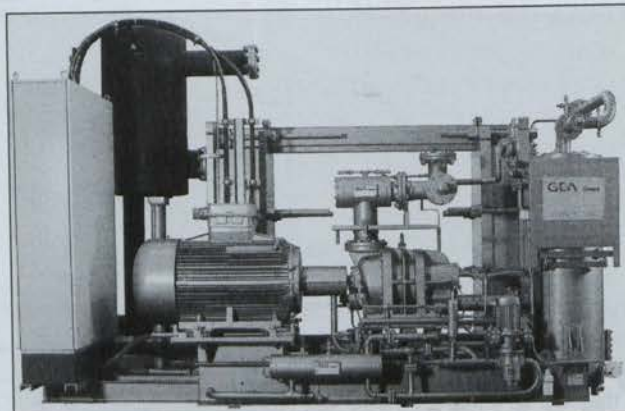
design, product supply, and also advice is available on installation and commissioning.

To this end H & M Engineering is a highly-computerised operation making extensive use of auto CAD and even auto CAD when on site visits.

The actual installation and commissioning is carried out by a nationwide network of appointed service engineers with H & M Engineering acting as the project managers.

Nonetheless, H & M Engineering is first and foremost a supplier of products and equipment. Spares are available from the company's Clondalkin premises, which is situated close to the M50, thereby providing easy access for all of Dublin, and the primary routes to the rest of the country.

Given the quality



Grasso ... from H & M Engineering.

Thermo Systems



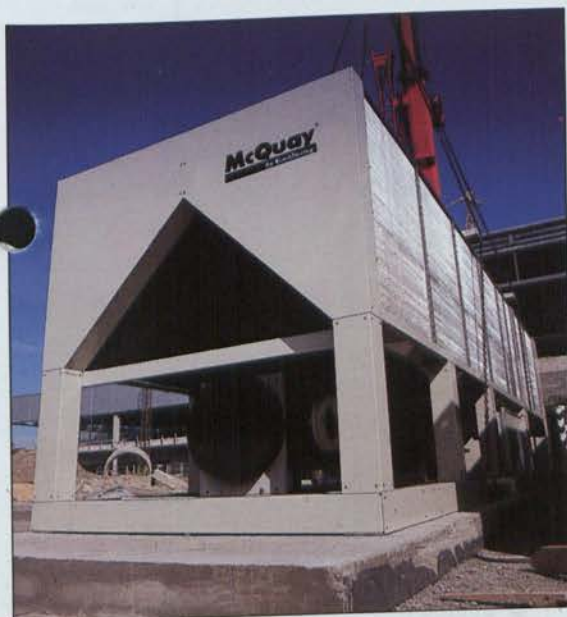
DISTRIBUTORS IN IRELAND FOR:-

AAF International Air Handling and Cleanroom Equipment

- ◆ Unique solid panel construction air handling units
- ◆ 80% more energy efficient than glass fibre panelled units
- ◆ Three times design life of fibre panelled units
- ◆ Fan filter units using EC motor technology
- ◆ Integrated cleanroom systems and equipment

McQuay International HVAC Chillers

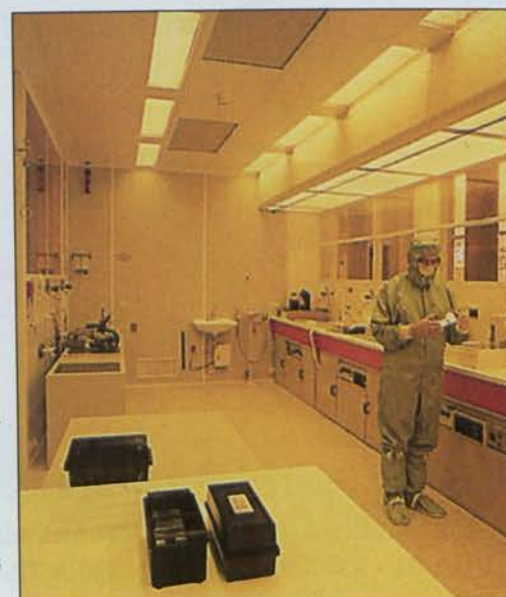
- ◆ Single chillers to 10,000 Kw
- ◆ Single Screw oil free and virtually maintenance free chillers
- ◆ Worlds most efficient reciprocating chillers
- ◆ Worlds most efficient centrifugal chillers
- ◆ Refrigerants R22, R407C, R134A, R410A



ABOVE: McQuay International single screw chiller from Thermo Systems



ABOVE: AAF Easdale air handling unit from Thermo Systems



RIGHT: AAF cleanroom equipment and systems from Thermo Systems

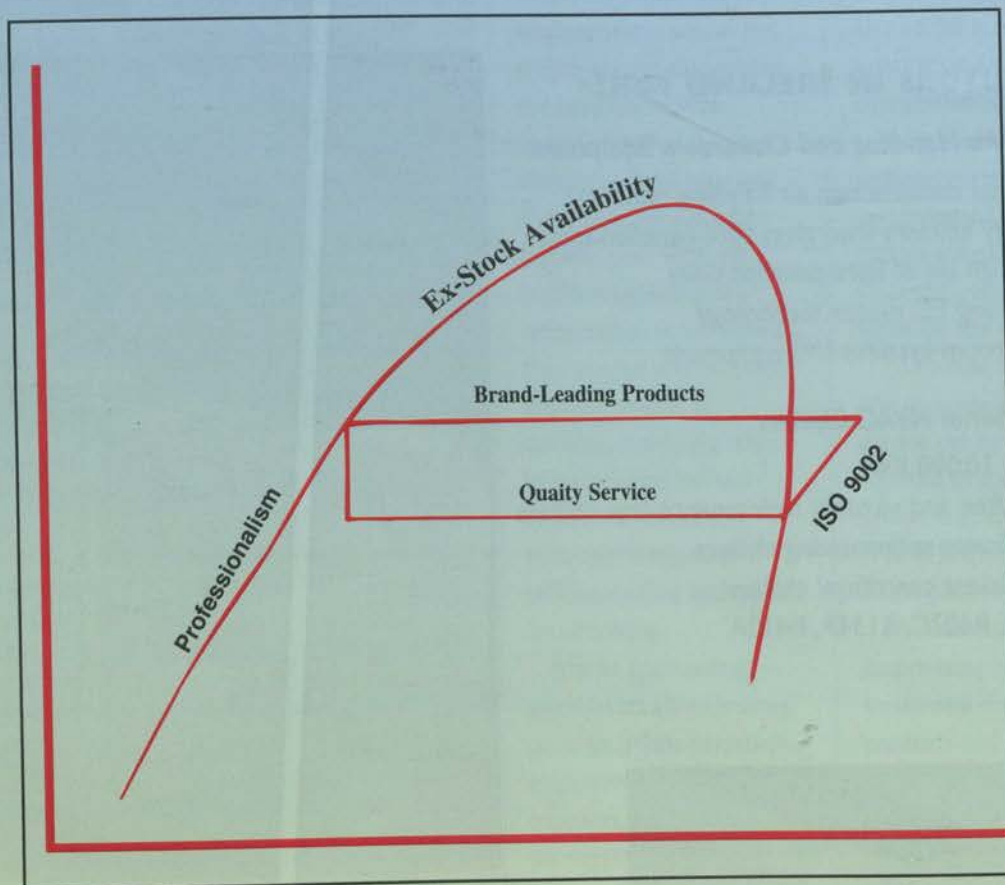
Thermo Systems

DUBLIN: Thermo Systems Ltd, Unit 2, Whitechurch Road, Rathfarnham, Dublin 14. Tel: 01 - 492 5340; Fax: 01 - 492 5342;
E-mail: info@thermosystems.ie
CORK: 204 Bruach na Laoi, Cork. Tel: 021 - 320023; Fax: 021 - 320023.

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Unit 3, Monahan Road Industrial Park, Cork. Tel: 021 - 317645/317681; Fax: 021 - 317681

Belfast Branch

<https://anbow.tcdublin.ie/bssa/vol38/iss9/1>
DOI: 10.21427/D7KM5K

Unit 6, Hawthorne Business Centre, Wildflower Way, Boucher Road, Belfast.
Tel: 08 01232 665 999; Fax: 08 01232 665 888

emphasis of the product portfolio and the support services provided, H & M Engineering represents only brand-leading names in refrigeration. Grasso is a typical case in point.

Grasso is one of the world's leading manufacturers of refrigeration compressors and components, offering a wide range of factory-assembled, ready-to-operate liquid chillers, all of which are equipped with Grasso screw compressors. Comprising complete refrigeration systems, the range caters for the medium/large refrigeration and ac market, with capacities between 200 and 3300kW (57 to 939 tons).

Available in water-cooled or air-cooled versions, or with evaporative condensers, all models are equipped with a standard modular PLC SIMATIC 55 - 95U controller.

Worldwide legislation will prohibit the future use of products and refrigerants containing CFCs. However, ammonia (NH₃), one of the oldest industrially-used refrigerants, has the benefit of being environmentally neutral. Grasso NH₃ liquid chillers are designed specifically for the refrigerant ammonia.

Contact: Noel May/
Colin Huggett,
H & M Engineering.
Tel: 01 - 459 1470/71.

McQuay SeasonPak™ from Thermo Systems

McQuay, the leader in chiller design, has introduced another industry first – the McQuay SeasonPak air cooled chiller (type ALS 070A-425A) with single-screw, liquid refrigerant injection compressors and fuzzy logic control theory – which is now available from Thermo Systems.

McQuay international's chiller design experience, coupled with the outstanding features of the ALS chiller, provide customer benefits unmatched in the industry.

Full factory testing of each unit with water hookups insures a trouble-free start-up. Extensive quality control checks during testing ensures that each safety and operating control is properly adjusted and operates correctly. Factory-installed options minimises field expenses and start-up labour.

The rugged design of the single-screw compressor allows it to tolerate liquid slugging. The ALS screw chiller will start and operate under conditions that would destroy a reciprocating compressor.

The simplified

design due to the elimination of many moving parts such as pistons, valves, connecting rods and oil pumps found on reciprocating compressors results in the enhanced reliability of the single-screw compressor.

Due to symmetrical compression processes taking place on both sides of the main screw rotor, balanced forces result in the elimination of the large thrust loads inherent in twin-screw compressors. Very low load operation enhances the bearing and compressor durability and reliability.

The liquid refrigerant injection design increases compressor reliability as no large and expensive oil separators are required. Recurring problems associated with oil injection systems are a thing of the past.

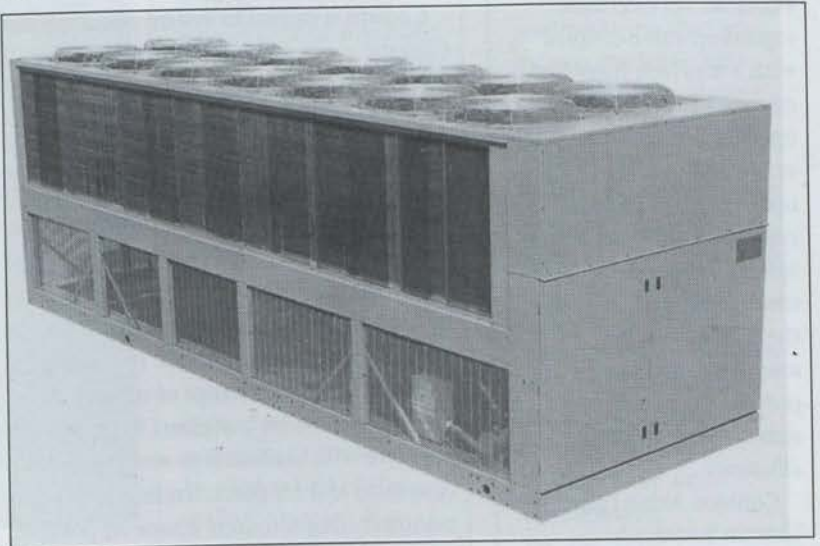
Integral to the basic

design of the single-screw compressor, the main screw rotor shaft and gaterotor shafts cross at right angles in the compressor. The result is ample space to locate heavy-duty bearings and increase compressor reliability since no limitations are placed on bearing design as found in twin-screw compressors.

Recent technological advancements has made available a composite material that prevents premature wear on the gaterotor. The composite material is made from a multi-layer carbon impregnated material designed for strength and durability.

Field serviceability has not been sacrificed to meet design objectives for performance on the ALS screw chiller. Inspection covers allow for an excellent visual inspection of the main screw and gaterotors.

Compressors are located on slide rails allowing them to be easily removed from within the unit. This



McQuay SeasonPak™, type ALS 070A-425A, packaged air cooled rotary screw water chiller from Thermo Systems.

REFRIGERATION

inherent unit design allows for quick access to the compressors if necessary.

Carefully laid-out refrigerant piping and components allow for excellent serviceability of the unit.

An internal economiser system enhances the unit's refrigeration effect and allows the compressor to run at a more efficient operating point. The result is high efficiency and lower operating costs when compared to typical chillers without economisers.

The ALS screw-chiller utilises a liquid refrigerant injection system, meaning only a fraction of the oil is required when compared to oil injection systems. Oil drag that is found in oil injected compressors has been eliminated. Less power is required to drive the compression components (rotors) resulting in a more efficient unit.

The ALS air cooled chiller is equipped with the most advanced means of refrigerant flow control available. An electronic expansion valve-coupled with MicroTech fuzzy logic control – provides excellent operating efficiencies, both at full and part load operation. The electronic expansion valve allows the system to operate at lower condensing pressures, and the highest possible evaporator pressure to provide optimal system stability and maximum efficiency.

Contact: Aidan Lynch, Thermo Systems.
Tel: 01 - 492 5340.

Lennox 'Expert Systems'

The well-publicised acquisitions by Lennox, of HCF in France, Refac in Holland and Spain and Ruhaak in Germany, combined with the subsequent consolidation and development of its own manufacturing capabilities, are making Lennox a major player in the market, with a comprehensive product range to meet most hvac system requirements, all of which are now available in Ireland through Walkair.

Lennox has long been an acknowledged market leader in the packaged rooftop field and has recently launched market-leading fan coil products. But Lennox has steadily been building a reputation for excellence in chiller products too. Now there is a wide range of chiller models from 8 to 1,522kW, including air, water cooled and heat pump versions and encompassing scroll, screw and reciprocating technologies.

The screw compressor models are particularly remarkable in using 5-6 lobes high performance profile, which gives a 15-20% efficiency improvement over conventional profile compressors. This makes the Lennox screw well-suited to high load applications.

Lennox's chiller models operate with a broad range of refrigerant choices, including R22, R134a, R404A and R407C. The company believes that, having tested R407C as far back as 1993, it was the first manufacturer to use it as a standard refrigerant in a liquid chiller. Now it is available as a standard in part of the range and as an option on several models.

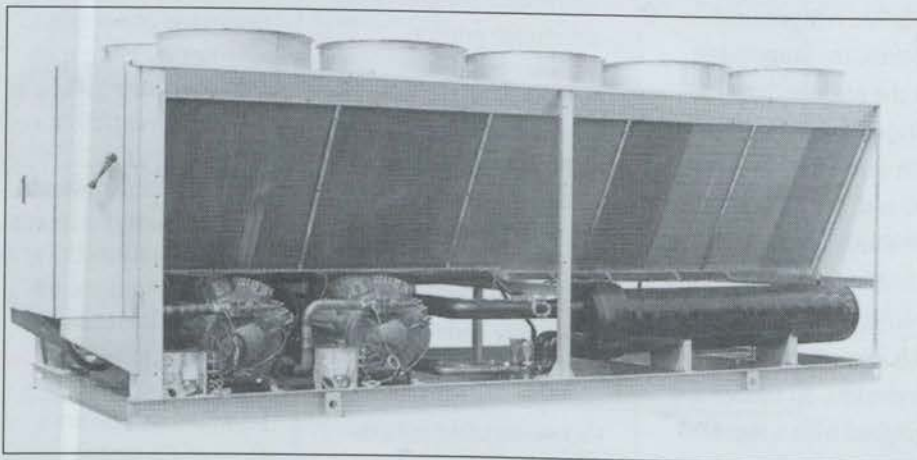


Photo shows Lennox LCHP packaged liquid chiller, with air cooled condenser, from Walkair.

Control is central to system operation and efficiency and Lennox has brought in the Climatic control and management system that can interface with most of the latest integrated bms systems. Climatic is used to provide precise temperature control and stability for chilled or heated water. Among its functions it ensures unit safety and optimises system operation.

The system uses graphic or alphanumeric screens to enable users to check system operating and diagnostic information. Each Climatic unit can control up to eight chillers and auxiliary equipment such as pumps and valves.

Chillers are at the heart of the "expert systems" required by today's buildings. Lennox recognises the nature of "expert systems" and now has the range of equipment and the technical expertise to provide the "complete package".

This is a definite change of strategy and a sales and management system is evolving that enables support for customers to be provided more efficiently than ever before. Walkair's objective with Lennox is to work in close "partnership-style" arrangements with key customers and suppliers, lending in-depth expertise where required, and providing new manufacturing solutions whenever possible.

Contact: Vincent Mahony, Walkair. Tel: 01 - 456 8070.

Hiross Flexible Floorspace System

The Hiross Flexible Space System (FSS) is an innovative modular underfloor air conditioning system which utilises the access floor plenum, thereby eliminating the limited flexibility of conventional piping, fixed duct work and false ceilings.

The principal components of Hiross FSS are the Conditioned Air Module (CAM); the Console Terminal Unit (CTU); and the Floor Terminal Unit (FTU). Brief detail of each are as follows:—

Conditioned Air Module — The CAM range covers cooling and heating needs by distributing the air

under the floor; either chilled or hot water is supplied to a heat exchanger coil or a dual coil system. These factory-wired modules continuously monitor and control the air temperature, both in the floor plenum and in the ambient for each assigned zone.

High efficiency filters provide air cleanliness and an electrode steam humidifier (5kg/h) provides humidity control.

CAM may be enclosed in partitions or left free-standing in shafts, corridors, technical rooms or in the working space.

Console Terminal Unit — The CTU quietly draws air from the plenum for



Hiross FSS conditioned air module showing baseframe layout from Core Air Conditioning



Hiross FSS console terminal unit from Core Air Conditioning

distribution in the workplace. A specially-developed multi-functional control permits personalised temperature and air flow control while onboard temperature sensors control automatic damper operation during cooling/heating or recycle mode.

Floor Terminal Unit — The FTU or Fantile operates in the same manner as the CTU unit. The Fantile, however, is recessed into the floor to offer even greater space gain. The Fantile can easily replace an access floor tile anywhere in the room, and be used as part of the walkable surface. It is particularly suitable for

open space plans.

For smaller access floor heights the FTU 300 can be supplied in two cabinet sizes for 150mm and 200mm voids.

Typical Hiross FSS worldwide installations include the 1000,000 sq m Centre Building, Hong Kong; the 60,000 sq m Telekom Tower in Malaysia; Gatwick Airport; Panasonic, Paris; Digital, France; Millbank, London.

Comprehensive explanatory technical literature on Hiross FSS is available on request.

Contact: Austin McDermott/Andrew McEvitt, Core Air Conditioning.
Tel: 294 3110.

REFRIGERATION

TRADE NEWS

Thermal Heat Exchangers

Thermal Heat Exchangers (Irl) Ltd, one of the largest dedicated fin coil heat exchanger manufacturing plants in Europe, now offers a full range of heat exchangers as heaters, coolers, condensers, evaporators, and equipment for waste heat recovery, as well as six complete ranges of air-cooled condensers and dry air-liquid coolers.

AV/H5 (Eurovent Certified) — The AV/H5 features capacities from 9-191 Kw and is available in 1-6 fan models with fan sections individually partitioned. The specially-designed casing is protected by a weather-proof finish. The units comprise 2-speed external fan motors with enhanced low-sound pressure levels.

- up to 100 Kw available ex-stock
- can be mounted as either "V" or "H"
- models in 230 V available on request

AV/H6 (Eurovent Certified) — The AV/H6 features capacities from 15-156 Kw. Available in 1-3 fan models with fan sections individually partitioned. The specially-designed casing is protected by a weather-proof finish. The units comprise 2-speed external fan motors with enhanced low sound pressure levels.

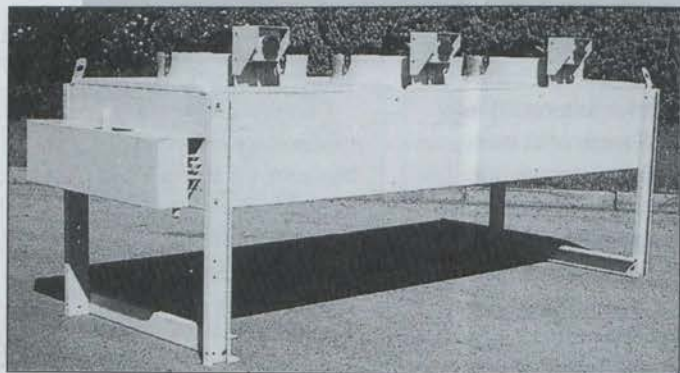
- inexpensive industrial design
- casing in weather-resistant aluminium, unpainted
- high-performance external rotor fan of proven design

AV/H9 (Eurovent Certified) — The AV/H9 features capacities from 60-1000 Kw. Available in 1-10 fan models with fan sections individually partitioned. The specially-designed casing is protected by a weather-proof finish. The units comprise 2-speed external fan motors with enhanced low sound pressure levels.

- up to 100 Kw, available ex-stock.
- models in 230 V available on request

Finned Coil Heat Exchangers – These are available in a variety of fin materials (aluminium, epoxy-coated and copper), from 3/8" and 1/2" tubing, single pieces and series.

Contact: Martin Winters, Thermal Heat Exchangers.
Tel: 041 - 9831051.



AV/H5 (Eurovent Certified)

Grundfos 'One-For-One Plus'

From 1 October 1999 Grundfos has once again embarked upon its "One for One" promotion, except this year there is a difference. It has added some great prizes to this year's promotion, the operation of which is really very simple.

From the beginning of October, all UPS 25-50's

scratch the panel on the card to reveal the symbols. Match three symbols and they receive that prize. The good news is that there is a one-in-one chance of winning something. Yes ... a one-in-one chance; hence the title of the promotion.

Prizes include watches, jackets, golf umbrellas, golf balls, baseball hats, maglite torches, mobile phone holders, and National Lottery Scratch Cards.

A colour brochure giving details of prizes is on its

ONE FOR ONE PLUS

(Please use block capitals)

Name:

Company:

Address:

Tel. No:

Stockist's Name:

GRUNDFOS®

Every card is a winner!

Match 3 symbols to reveal one of the following prizes:

National Lottery Scratch Card • Jacket • Golf Umbrella • Set of Golf Balls • Maglite Pocket Torch • Baseball Hat • Mobile Phone Holder • Unisex Watch

Terms and conditions

1. The promoter is Grundfos (Ireland) Ltd. 2. During the course of the promotion, each consumer will receive a scratchcard with every Grundfos domestic circulator purchased. The consumer is required to scratch off the silver panel to reveal three matching symbols which denotes the prize which can be claimed by returning the card to the freepost address provided. Prizes will be posted to the address filled in on the card by the consumer. 3. The prize is non-transferable and no cash alternative will be offered in lieu. 4. Closing date for receipt of cards is 31st March 2000

supplied to merchants will contain a "One for One Plus" promotion card. All the customer has to do is

way to all Grundfos installers.

Contact: Grundfos.
Tel: 01 - 295 4926.

Core to Distribute Hiross

Following the amalgamation of Liebert and Hiross earlier this year to form Liebert Hiross, Core Air Conditioning is now the appointed Irish distributor for the entire Hiross range of products, including all spare parts, after-sales service support, technical data, etc.

Both ranges complement one another, the Hiross portfolio perhaps being more expansive in specialist niche areas, especially for applications such as telecommunications where its unique reporting and monitoring facilities are highly-valued. The same can be said for the Hiross Flexible Space System (see page).

"Bringing Hiross on stream considerably strengthens the all-encompassing nature of the Core portfolio", says Core Managing Director Austin McDermott. "It fits in perfectly with the Liebert range while also complementing the extensive Carrier package, especially now that we can supply the Hiross free-cooling super chillers".

Contact: Austin McDermott/Andrew McEvitt,
Core Air Conditioning. Tel: 01 - 294 3110.

TRADE NEWS

Vokèra at Plan Expo

Specialists in domestic gas boilers, Vokèra Ireland are exhibiting at Plan Expo '99, the construction industry showcase exhibition. Products featured will include the Linea combi boiler range; the Mynute system boiler; Eclipse condensing boiler; the unique Meteor floor-standing boiler; and the Flowmaster water heater.

Following the continued success of its range of system boilers, Vokèra has produced a new brochure providing



Vokèra's Linea combination boiler which will feature at Plan Expo '99 in Simonscourt at the RDS (4/5/6 November 1999).

comprehensive information on each of the company's system models.

The distinctive orange-coloured brochure provides detailed technical and flueing information on the compact Mynute series and the Eclipse ESS condensing boiler, in addition to highlighting important lifestyle benefits for the end-user.

Developed as part of Vokèra's new look literature, the system brochure features a colour-coded format, making it easy for readers to identify products and locate specific information. Examples of Vokèra's extensive flueing options are also illustrated.

Commenting on the new literature, Paddy Scriven, Vokèra Ireland, said:- "We have a wealth of product information which we wanted to communicate to our customers and, rather than combining this into one weighty volume or producing a brochure for each boiler, we felt that the most practical way of presenting it was to produce two brochures which focus separately on our combi and system ranges.

Contact: Paddy Scriven, Vokèra Ireland. Tel: 056 - 55055.

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TRADE NEWS

Carrier Alarko ... the Art of Heating

While Plumb Direct is a relatively new company, the experience, technical knowledge and market understanding of its principal directors – Alan Seery and Kevin Shanahan – represents more years

than either care to remember! Both are extremely well-known throughout the industry, as indeed are the brand-leading names which make up the Plumb Direct product portfolio.

Marley Alutec's Vortex

Utilising the latest technology in aluminium tube manipulation processes, Marley Alutec has launched Vortex to provide a consistent internal diameter rainwater downpipe system, in sizes 63 and 76mm, with integrally-formed pipe sockets, radius swept bends, and offsets.

Before now, traditional methods of manufacture caused a reduction in the internal bore of the pipe socket and fittings, thereby reducing the flow capacity. The Vortex system has a higher capacity, an increase of up to 20% over the traditional cast downpipe systems.

Modern in concept, Vortex retains the traditional appearance of aluminium rainwater pipes, allowing its use on both period and contemporary buildings. Mill finish and a choice of 18 polyester powder-coated colours are offered, (anodised and non-standard colours available on request).

Manufactured to BS2997 from heavy grade 1.6mm thick corrosion-resistant aluminium pipe, Vortex is designed for a long, low-maintenance life and provides a uniform internal diameter and high-capacity; it is 60% lighter than cast iron.

Marley Alutec's new rainwater pipe system combines the benefits of modern manufacturing techniques with a traditional appearance, and provides a cost-effective solution to the merchant and contractor alike.

Contact: MFP Sales Ltd. Tel: 01 - 628 0696.



Vortex is Marley Alutec's new high-capacity aluminium rainwater downpipe system.

When it comes to radiators this is no exception. Carrier and Alarko are names which are synonymous worldwide with quality, innovative products and, the acquisition of Alarko by Carrier to form Carrier Alarko, has brought their combined strengths to bear on the radiator market.

Carrier Alarko panel radiators are produced in series and complying with TS 4310, DIN 4704 and BS EN 442 through the high-tech computer-controlled modern production lines established by Alarko Alpom factory. The dyes

the special test tank under the pressure of 10 bars, allowing a maximum operating pressure of 7.7 bars.

In cases of special customer requirements the radiators leaving the production line can be tested individually up to 13 bars, allowing a maximum operating pressure of 10 bars. Allowed maximum operating temperature is 120°C.

Carrier Alarko panel radiators are resistant to corrosion, exterior effects and impacts. Their outer appearances are perfect. They have long life. The



Carrier Alarko ... The Art of Heating from Plumb Direct.

which are used in the production were prepared in Germany while the welding lines and test pool were designed in Switzerland.

Surface preparation, coating and painting facilities have the most recent technology. The main casing of radiators is produced from cold rolled steel in the thickness of 1.25mm in conformity with EN standards.

In standard production radiators leaving the production line are individually controlled in

inner and outer surfaces of radiators are completely cleaned by applying the operations of immersion and spray oil taking, iron phosphate coating, and passivation respectively in conformity with DIN 55900, and completely purified from chemical substances which effect the quality of paint.

Radiators which are primer coated by the immersion method and baked are rebaked by being painted with the method of electrostatic powder-coating through robot spray in a climatized cabin.

Carrier Alarko panel radiators can also be supplied with compact valve ensuring piping connection from the bottom side.

This type of radiator provides savings in heating costs when equipped with a thermostatic regulator.

Carrier Alarko panel radiators, with their perfect designs and up-to-date production technology, are the excellent choice for use in multi-storey buildings in which high operation pressure is required. The various alternative sizes available and their compactness also make them suitable for smaller environments.

All models carry a 5-year guarantee.

Contact: Alan Seery/
Kevin Shanahan, Plumb
Direct. Tel: 01 - 457 9030.

Fridge Spares Do It Nationwide

The successful opening of Cork and Belfast branches in the last 18 months has firmly established Fridge Spares as a genuine nationwide operation, bringing a full range of refrigeration products and support services to contractors spread right throughout the entire 32 counties of Ireland.

The same management structures, stocking philosophy and operational procedures apply to all branches, though there is flexibility for appropriate variations to meet regional preferences.

Manager of Fridge Spares in Cork, which was relocated 16 months ago, is Robbie

Burns. He, together with Dermot Collins and Kevin O'Sullivan, operates out of a 6,000 sq ft office and

warehouse complex which is located in the city's Southside Industrial Estate at Togher (Tel: 021 317 645).



Cylon Optimises VAV and Fan Coil Performance

By controlling Variable-Air-Volume and FanCoil units on the Building Management System, the comfort of the building occupiers is maximised. There are also running cost and energy saving advantages achieved when these devices are directly controlled by the BMS. The BMS or Building Management System is the answer to the communication requirements in controlling all building services, including the air conditioning, resulting in what is termed an "intelligent building".

Cylon's BMS system is flexible and modular. The Dublin-based company has developed its Unitron range to provide an efficient alternative to discrete control of fan coil and VAV units, while benefiting fully from BMS technology.

The UCU10VAV controller is normally on an RS485 sub-network of the Cylon BMS, where the baud rate is selectable up to 38K4. As its main networking solution, Cylon uses Arcnet and this allows for a high speed data transfer rate of 2.5 mega bps between the UCC4 controllers, which control the sub-networks.

The built-in airflow (air velocity) sensor is a prime feature of the Unitron UCU10VAV controller. This brings advantages from an engineering, installation and maintenance viewpoint, because there is no need to mount a separate airflow sensor.

Additional features provided by Cylon, which enhance the application of the UCU10VAV, are:

- Control of each VAV unit is freely programmable to an individual's preferences
- The UCU10VAV does not have a battery on board which lowers maintenance time and costs
- It has data-logging capability, which helps in trouble shooting of the Air Conditioning system
- A PIR sensor can be linked as an input to conserve energy when the space is unoccupied
- The Unitron controllers can slave to a local light switch or output a signal to switch local lighting
- Maintenance personnel can provide a quick response to problems monitored on the BMS by observing alarms on the supervising PC or carrying a pager which will be automatically dialed by the BMS

- Ease of installation on a DIN rail mounting is the same for all Cylon BMS controllers
- The UCU10VAV controller can be mounted next to the VAV damper-actuator or approximate to it as is most convenient.

Contact: John O'Driscoll, Cylon Controls Ltd. Tel: 01 - 836 6626; E-mail: askus@cylon.ie
Website: <http://www.cylon-controls.com>

Fridge Spares Belfast —
Michael Conlon with Belfast
Managing Director Don Munn
and Mary McFerran.

Fridge Spares Belfast branch opened eight months ago and is located at the Hawthorne Business Centre, Wildflower Way, Boucher Road, Belfast (Tel: 080 1232 665 999). Belfast Managing Director is Don Munn and he leads a management team which includes Michael Conlon and Mary McFerran.

Both branches are already gaining a reputation for ex-stock availability; the help and assistance provided with design and devising problem-solving solutions; and attentive after-sales service support.

Contact: Dermot Byrne,
Fridge Spares, Dublin.
Tel: 01 - 830 3466.

TRADE NEWS

Polytherm Breaks New Ground

Polytherm Heating Systems Ltd, the Hevac company which is totally dedicated to underfloor heating, took a stand at the Ploughing Championships in Co Cork recently with sister-company, The Tube Company of Ireland. That they were breaking new ground, so to speak, is an understatement!

The objective was to promote the whole concept

and level of interest shown, clearly indicating that there is a vast interest in the concept. The fact that the entire Ploughing Championships was wallowing in a sea of mud at the time served only to reinforce the benefits of underfloor heating still further.

The arrival of Cork Senior Hurling Captain



Tom Cashman, Polytherm and Tube Company Cork Regional Manager, who captained the Cork Senior Hurling team to All-Ireland victory in 1986; Mark Landers, Captain, Cork Senior Hurling Team who won this year's All-Ireland; Declan Kissane, Director, Hevac; Peter Lynskey, Director, Polytherm; and Tomás Mulcahy, Cork Senior Hurling Captain when they won the All-Ireland in 1990.

of underfloor heating to a wider audience, the Ploughing Championships visitors representing a very broad and widely-representative cross-section of all walks of domestic and commercial/industrial life.

The exercise proved extremely productive, the number of enquiries taken,

Mark Landers with the Liam McCarthy Cup raised the spirits of all. He was accompanied by Polytherm and Tube Company Regional Manager for Cork, Tom Cashman, who himself captained the Cork Senior Hurlers to All-Ireland victory in 1986.

Spotlight on Bathroom at Mostra Convegno

The spotlight will be on the bathroom at the 32nd Mostra Convegno Expocomfort, which will be held at the Fiera Milano from 21 to 25 March 2000. The decision to focus on this section of the event, which occupied almost 32,000 sq m at MCE 1998, and to place particular emphasis on aesthetic aspects and on bathroom design, has resulted in a complex and multi-faceted project.

In the first instance, the project entails a new exhibition layout, with the creation of "1 Padiglioni dell' Arredobagno" (bathroom halls) alongside the space devoted to plumbing technology and water treatment. The "Padiglioni dell' Arredobagno" are primarily aimed at designers, architects, interior designers, wholesalers and retailers, showroom owners and employees, and those in the mass distribution sector.

Besides the exhibition itself there are also three special events that revolve around the bathroom – Linee D'Acqua – Sei progetti per il bagno del futuro (Water Lines – Six designs for the bathroom of the future); Premio Comfort & Design – Dalla Norma alla Forma (the Comfort & Design Prize – From standards to form); and Wonderful World – Progettare i luoghi del benessere (Wonderful World – Designing for comfort)

Cavanagh Foundry Environment Award

Minister Brian Cowen visited Cavanagh Foundry Ltd, Birr, recently to present the prestigious environmental award – BSEN ISO 14001 – to the company. Cavanagh Foundry specialises in the manufacture of covers and frames used for gaining access to underground service networks. Traditionally, these consisted mainly of sewer and water networks, but more recently this has expanded into the rapidly-growing areas of telecommunications and Cable TV.

The products are manufactured on a highly-automated line which runs 24 hours daily, stopping only on weekends for maintenance. The company is a major exporter of these products and the name of this Birr-based firm can now be seen on products in the pavement and on the roadways throughout the EU.

The Foundry is the second recipient of this award in the EU and had to compete against much larger multinational companies, many of which are world leaders in their field. The Environmental Award is open to all sectors of industry across Europe, and is monitored by the British Standards Institution. Managing Director Joseph Cavanagh says: "We anticipate commercial pay back to our efforts, as engineers and designers are becoming increasingly aware of the need to ensure the products they use and specify are produced in an environmentally compliant way. From a local perspective, it is a clear indication that we fully comply with all environmental regulations and that the Foundry has an independently verified clean bill of health".

Planning an environmental upgrade for your building?



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Honeywell's reputation for quality and reliability is second to none, while McCool's established position in

the Irish building controls industry, with branches in Dublin, Cork and Limerick, ensures a strong and healthy working relationship with all existing and future customers.

If you would like to know more contact:

Finn McCool or Leslie Mason,
McCool Controls and Engineering Ltd,
Unit 21 IDA Enterprise Centre,
East Wall Road, Dublin 3.
Tel: 01 - 855 0542; Fax: 01 - 855 0546
Cork - Tel: 021 - 382055
Limerick - Tel: 061 - 372277

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